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DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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THOUGHTS ABOUT NOVEMBER.

"Sweet Summer, sighing, flies the plain,
And waiting Winter, gaunt and grim,
Sees miser Autumn hoard his grain,
And smiles to think it's all for him."

Home Journal.

NOVEMBER, in anticipation at least, is generally regarded as an important month.—We think of it as a sort of transition period, a mingling of Fall and Winter, with just enough of Summer to give an edge to its sharp corners. But in realization it is often found that these corners are so rounded that its short days, coming as they do one at a time, glide away more comfortably than we expected, when looking upon them as a unit, and at the close, as we look back upon the month, the remark is often made that "November has been quite pleasant, after all!"

How the Month will prove, this year, remains for each one to determine for himself. With an eye to see and a heart to enjoy the beautiful and the poetical in nature, such as the unknown writer of the four lines at the head of this article must have possessed, November and all the other months of the year will indeed prove a "joy forever."

To the farmer, too, whose work is kept up squarely with the season, none of the various phases of this fickle month will come amiss, but all be made to fit in with his general plan of operations. Should the frost-king seal up the earth, as he sometimes does, by the middle of November, all the potatoes and other root crops of this class of farmers will *happen* to be safely in the cellar.

But to another class—the procrastinators, the behind-handers—this month will probably prove much like its predecessors, very unpropitious—every storm and every freeze happening at just the wrong time. We trained in that company once just long enough to learn to dislike its tactics, and to pity those who have "enlisted for the war."

We recollect, when a boy, of being on pick-it duty one day in a potato field, after the soil was pretty well frozen, and when a cold, piercing wind blew most uncomfortably all day long. With strong hoes the crust of frozen earth was broken and tipped off the hills, while with mittened, benumbed fingers we gathered the potatoes from their beds and from the crust into which many of the upper ones were frozen. It makes us "blow our fingers" even now, to think of that day's work. The next morning, to the great joy of one little fellow, at least, it was announced that the ground was as solid as a rock, and that no more potatoes could be dug till it thawed; and as it did not thaw out again that fall, about an acre in one field remained unharvested. This was an experiment which is not often repeated, probably. But potatoes are frequently left in the ground until there are frosts sufficiently severe to injure some of those which lie upon or near the surface of the ground.

Another crop that sometimes stands in the field until November is *Indian Corn*. This noble grain may be harvested at any time from the last of September till the snow flies. Off West they leave it in the fields until mid-winter, or until consumed or marketed. But here in New England, where

we calculate that the stalks, husks and buts of an acre of corn are about as valuable as the hay grown on any other acre of "mowing," on the farm, we must consider the stover as well as the grain, in comparing the advantages of an early and late corn harvest. The husks and buts that remain in the field till late are not as valuable for fodder as those harvested in October, but the grain itself, except the ears that fall to the ground, is not injured by wet or cold.

What a wonderful plant, or *grass*, as the botanists call it, this Indian corn is. Who does not like to watch its growth,

> When, like a column of Corinthian mould,
> The stalk struts upward, and the leaves unfold;
> Or when the strong foliage bears the standards high;
> And shoots the tall top-gallants to the sky!

Equally beautiful is a field of corn when the golden ears peep modestly through the husks white already to the harvest. There is something animating in the corn crop, from beginning to end, especially in the rich appearance of the ripened grain. Change a company of laborers from digging potatoes to gathering corn, and every man and boy will not only stand up straighter, but his eye will be brighter, his motions quicker, and his song or voice more cheerful.

Beautiful as this crop is, its wonderful utility will still be regarded by farmers as its chief recommendation. The different parts of the crop are already used in a great variety of ways, and others may yet be discovered. We lately saw the statement in the newspapers that a foreigner had filed his application, with specimens, for a patent for various uses made of maize shucks. The varieties include yarn, maize cloth, paper of beautiful qualities, white and colored, from silk to parchment texture, maize flour, &c.

Corn husks have been used in the manufacture of common paper for many years, and are an excellent material for under-beds. William Cobbett wrote a book after his return to England, recommending corn as food for man and beast, which was printed on paper made of corn husks. He also smoked them in his pipe as a substitute for sobacco leaves. Would that his example in this respect might be followed by all Americans who must smoke in other people's faces!

THE AREA OF THE GREAT AMERICAN LAKES.—The five great lakes of North America have lately been surveyed, and it is found that they cover an area of 90,000 square miles. The total length of the five lakes is 1534 miles. Lake Superior, at its greatest length, 355 miles; its greatest breadth is 160 miles; mean depth, 988 feet; elevation above the sea, 627 feet; area, 32,000 square miles. Lake Michigan is 360 miles long; its greatest breadth is 108 miles; its mean depth is 900 feet; elevation, 687 feet; area, 20,000 square miles. Lake Huron, in its greatest length, is 200 miles; its greatest breadth is 160 miles; mean depth 300 feet; elevation, 574 feet; area 20,000 square miles. Lake Erie is 250 miles long; greatest breadth 80 miles; mean depth, 200 feet; elevation 555 feet; area 6000 square miles. Lake Ontario has a length of 180 miles, and its mean breadth is 65 miles; mean depth, 500 feet; elevation above the ocean, 262 feet; area 6000 square miles.

For the New England Farmer.

CORRESPONDENCE FROM MAINE.

POTATO ROT.

Since about the 15th of September the farmers have been discovering this disease on their potatoes. They looked remarkably well in this section, considering the dry times, till the rust began to come upon them. It does not appear now that it will be any thing near like some years ago, but is more extensive than for three years past. The breadth planted has been rather on the increase, for a few years, to be fed out to stock, on account of the rot being less prevalent, the starch factories not buying them up, and a higher value set upon them for feed for sheep and stock, by the farmers.

WHEAT, CORN AND OATS.

Wheat is good—better than 1861, and more was sowed than for many years past—but not quite as good as in 1860. It has to be sown just as early in the spring as the land will admit of the teams working without "mudding it in," so as to get it ahead of the insects. It has proved the best way, to fit the land ready to sow, late in the previous fall, as far as I have seen or heard, and then as soon as dry enough, sow the wheat. Some have contended that if the snow was not off so as to sow in April, it was safe and best to sow upon the snow, or in the mud and water; but my experience is, wheat sown on snow-drifts, in mud-puddles, or the like, in early spring, has not vegetated sufficiently to warrant the practice.

Corn is a light crop, but much better than was even hoped for in August. The worms and drought in the spring injured it materially, so much that it did not entirely recover, though September has done wonders in the cornfields. There was more planted than last year.

The oat crop is full an average, yet not so many were sown as in some years; but as the aphis injured the crops but little, they will yield better than last year.

FROSTS AND THE WEATHER.

August gave Franklin County, as well as most parts of the State, frosts on the 18th, 24th, and 31st, each doing some damage to the "tender vines," and in many places nipping the corn leaves rather close. September, too, on the 22d and 25th, still harder. October 1st, a very hard frost, not slighting any of the vegetables along Sandy river, which it is usual for Jack Frost to greet with a withering kiss.

The weather, for harvesting, through September, has been delightful. Had it not been so the crops would have suffered, because the last 600,000 tallied among the hired help upon the farms, as well as among the farmers and farmers' sons. The streams are low—very low. O. W. TRUE.

Elm Tree Farm, near Phillips, Oct. 3, 1862.

For the New England Farmer.

AGRICULTURE IN COMMON SCHOOLS.

The true, fundamental idea, I think, which should govern the introduction of studies into our common schools, is—

1. That no sectarian doctrines of religion should be taught. The importance of this prohibition has long been discovered.

2. That the studies permitted should be *general* and not *special*. That is to say, studies which will *undoubtedly be of subsequent use to all*, and not those which *may* possibly be so to some scholars in the avocations in which they may engage.

Hence Reading, Writing, Arithmetic and English Grammar are taught as fundamental studies; and then follow those which may be termed secondary, such as the Elements of Chemistry, Geology, Botany, the higher Mathematics, some of the ancient and modern languages, &c., usually as the scholars may elect.

But a small number of individuals in the State —*quasi* or amateur farmers, irregular teachers and book publishers—usually actuated by good motives, now ask that the Elements or the Principles of Agriculture be taught in these schools; and to further the object, the State Board of Agriculture has recommended it, and its Secretary, in connection with another gentleman much interested in education, has prepared a very good and neat Manual adapted to this purpose. The advocates of this plan seem to be possessed with the idea that farming in Massachusetts is unduly on the decline, that it is an occult science, and not sufficiently scientific in its operations, and that its prospective manual resources are alarmingly deficient. Hence this new mode for its recuperation.

Whether agriculture is or is not on the decline in Massachusetts, it is pretty clear that it cannot be controlled by the school-house; it is subject to other and higher laws. As to its being an abstruse matter, (except in the broad field of theory,) requiring early induction in our schools, to the practical farmer who can revel in his manure heaps, it is ridiculous. Agriculture should be as simple and confined to as few principles as possible; and these few principles—most every practical farmer will admit—are best wrought out from the soil by each individual, rather than confounded in the school-room, where more, probably, would be attempted to be taught than our exact knowledge would warrant.

Of those boys who attend our schools, only a small proportion intend to become farmers. To introduce the study of agriculture, therefore, would be well nigh futile, unless its study should be made *obligatory*—like some of the general studies—which no one, probably, will have the effrontery to demand. Besides, unless the farmers sustain it, it must fail. Have *they* asked for it, and will *they* sustain it? I think not. And here, as a partial answer at least to these queries, let me ask, (looking in the most favorable light upon all that has been said and done in furtherance of this "consummation so devoutly to be wished" by many good men, can any one tell the public how many boys have engaged in this study in our common schools in this State during the past year? The facts would be interesting to all concerned.

Admitting even that agriculture might be taught to advantage to some in our schools, it is an important inquiry whether they can possibly admit all the studies which may be useful to some scholars who attend them. Heretofore it has been considered wise to restrict them to those of a general or universal character. Much, it is supposed, is to be left to the student after he leaves school —more particularly the acquisition of his trade or profession. If one class of persons claim that the elements of agriculture be taught, another has as much right to claim that the elements of law (Blackstone and Kent) be also taught; still another those of medicine, and so on to the principles of carpentering, shipbuilding, tailoring, &c. All these studies or operations, in their proper place, are very useful; but it must be plain to every reflecting mind, that the common schools are not the place for them, and that the committees or powers over them, must economize and closely discriminate in the selection of useful studies to be there taught. This being so, the best rule they can adopt is, that they shall be *general*, not not *special*.

We are now engaged in an important civil war. The church has faced about and buckled on the knapsack, and all our schools, from the highest to the lowest, are reveling in the odor of gunpowder! A remarkable change has come over New England; her Peace Societies are a mockery, if in being, and her desire is that her plow-shares and pruning-hooks should be transformed into spears and implements of war. And some teachers, even, catching the spirit so rife, have urged the policy of teaching *military tactics* in our schools as a regular branch of education! Really, what next in the march of improvement? Undoubtedly the national defences, as well as agriculture, are all-important; but that their rudiments should be forced into the common school-room must strike the mass of reflecting persons as impolitic. If the young men of our higher schools and acadamies wish to drill—at proper seasons—for pleasure or physical development, (as those of one, at least, do in Boston,) there probably can be no serious objection to it; but military drill and kindred exercises should not be allowed to interfere with the ordinary duties of the common schools, for they are not instituted to make farmers, mechanics, professional men or soldiers; but to give a proper, general education to all, which shall be of value to them in whatever vocation they may engage.

It has been frequently said that our schools are already too much crowded with studies. But it is thought that in making room for agriculture, some others should be omitted or abridged, or that scholars should select the number and kind of studies they wish to pursue. Under these conditions, perhaps no one would object to a scholar's pursuing a course of agricultural rudiments. But even then, its utility is somewhat doubtful, as it may be well questioned whether the larger scholars who attend our common schools are of sufficient age to understand the many abstruse points involved in the theory, if not in the economy of this art. In fact, they are not well understood by any one. But even if what is taught is well settled, scholars must have a deep interest in the subject to retain anything of any value. Too much, undoubtedly, is sought to be crowded into the youthful mind, at the present day—or perhaps

it might be better said that too much is crowded *out*, for much that is taught disappears forever.

"Voracious learning, often overfed,
Digests not into sense its motley meal."

Without touching directly upon the question how agriculture should be taught, I would, in conclusion, observe generally, that the youth who pursues his studies little by little, who spreads them over a greater number of years, who commingles with the world, and judges of what he is in most need, usually makes the smartest and most practical man. A knowledge of the busy outside world—a knowledge of its ignorance and its learning—is all-important in education, as it tends to make a person wise. Much book learning, without the wisdom or means for its application, is too often characteristic of our young men. Hence the sarcasm of Pope:

"Some are bewildered in the maze of schools,
And some made coxcombs, nature meant for fools."

West Medford, Sept., 1862. D. W. L.

For the New England Farmer.

THOUGHTS ON ECONOMY.

It is thought by many that unnecessary expenditures are beneficial in causing the circulation of capital, just as though the circulation of capital without the production of economization of real value, could be universally productive of the elements of wealth.

Now a little reflection on some of the principles involved in the science of political economy, shows the fallacy of such reasoning. It is, indeed, true, that such expenditures do often tend to enrich certain individuals, but they just as surely tend to impoverish others. Take, for illustration, the article of tobacco, from the importation of which the British government alone derives an annual revenue of $28,000,000! Now, it is admitted by all that tobacco, as generally used, is of no benefit to the consumer; indeed, its uses are far overbalanced by its abuses, but overlooking this fact, we see that, unlike food, it does not strengthen and nourish the physical system; neither, like clothing, does it shelter our bodies from the inclemency of the weather, nor like flowers, pictures and other ornaments of similar nature, does it tend to refine and elevate the mind and develop those spiritual qualities which distinguish the soul of man from the instinctive mind of the brute. In short, it does the consumer no good whatever, and is, in reality, a capital of the most unproductive kind, while food, clothing, &c., are productive capital, whatever benefit may be derived from their use.

Suppose an agriculturist in America raises a quantity of tobacco; it then goes through the hands of the tobacconists and one or more merchants, each adding to the pecuniary—not the intrinsic—value of the weed, by which addition of value each gets pay for the time, labor, &c., which he expends on it. The tobacco is then exported, the net profits arising from its culture, and from the time, labor, &c., expended on it by the tobacconist and merchant, being so much real gain to the capital of the country. All time and labor below the net profits, cannot be reckoned as a *clear* gain, as they might have been applied with equal advantage in some other department, and are, in reality, so much *capital expended* in its production. The cost of transportation again increases the price of the tobacco, and then the duties imposed by the government, where it is imported, raises the price still higher, and then, before reaching the consumer, the merchants, through whose hands it goes, put on the "finishing touch." That part of the price which forms the net profits of the European merchant is not lost to the *country* where the tobacco is consumed, although it *is* lost to the consumer. Neither does the country lose the duties collected from it as an import, for government must impose taxes of some kind, for its support; but the consumer pays more than his share of government expenses, provided he consumes other taxable importations equally with the nonconsumer of tobacco. The other portion of the cost, however, is a dead loss both to the consumer himself and the country where it is consumed, the tobacco being no real equivalent for the money thus expended. Not only to the consumer and the country where they are consumed, are all kinds of unproductive capital a dead loss, but also to the world,—for the time, labor and capital expended in their production might equally as well be applied to the production of such capital as would be productive. Money, too, paid for unproductive capital, might just as well be given to the persons receiving it, without as with the intrinsically valueless remuneration. Or, as far as the economy of the question is concerned, it might as well be stolen in order to keep it in circulation. Tobacco, however, is but a single item in the list of articles composing the unproductive capital of the world, and unhappily, America has done her full share in their consumption.

What a vast amount of money do we, *even now*, spend simply for show. There is that one little item of imported *flowers for ladies' bonnets*, to say nothing of domestic ones; their cost is greater than that of railroad iron, and wounded soldiers often suffer for want of articles of comfort which such money would help to bring them. In many towns in New England, the consumption of tobacco, in its various forms, exceeds the whole amount paid for taxes on all kinds of property, while there is scarcely a town whose appropriations for educational purposes equals this self-imposed tax!

Nothing can be considered unproductive capital which tends to make men wiser and better, and to elevate humanity in the scale of progress and civilization. Millions are spent annually in dress to satisfy the requisitions of that tyrant of tyrants, fashion, which are really needed in the same department to answer the demands of undepraved taste, and to preserve the health and strength of the physical system.

The principles of political economy were formerly supposed to be involved only in the pecuniary affairs of nations, and this idea is conveyed in the definition which many economists have given to the term,—but it is evident that those principles, like all others, are of "universal application," many of them going beyond mere pecuniary questions, and are applicable in any and every department of life. Economy, combined with perseverance, energy and industry, is *the* great element of success in every laudable undertaking,—a great lever of almost illimitable power to raise humanity to a higher scale of civilization. Economy of time bears the standard of victory up the steep ascent of the hill of knowledge, the few spare moments

saved daily from the haunts of idleness and useless pleasure being sufficient to make any man of medium talents rich in mental wealth. In Napoleon's early days, while in the military academy, some of his fellow-pupils wasted much of their time in a neighboring shop, which he, however, seldom visited. Afterwards—I think it was when appointed to the command of the army of Italy—he called at the shop and was recognized by its mistress as the young soldier who had spent so little of his time there. "Ah, Madam," said Napoleon, "had I done so I should not now be in command of the army of Italy." It was the same great man who afterwards expressed the idea that it was the extra five minutes that saved victories. Take care of the pence, said Franklin, and the pounds will take care of themselves. Take care of the spare moments, and you thus save to yourselves years of time otherwise unoccupied. Save up to yourself daily a few of those propositions of whose aggregate composed the sum total of all knowledge, and you will at length possess a large share of imperishable wealth of the most productive kind,—productive of happiness and usefulness to yourself and others, in this world and in the future.

If acceptable, I should be happy to write another article on this subject during some of the spare moments. MONTHLY READER.

September, 1862.

REMARKS.—Write on. These are just the doctrines we all need—truths that cannot be successfully controverted.

MIDDLESEX CATTLE SHOW.

The annual exhibition of the Old Middlesex Society took place at Concord, on Thursday last, Sept. 18th. The weather was perfect. There was a clear sun and a slight breeze, just enough to make a little exercise agreeable. The show of cattle, horses, swine and poultry was unusually small,—smaller, indeed, than we have ever witnessed before on a similar occasion. There were but few articles of machinery on the ground—a Wood's mowing machine and a hay-tedder being all that we saw,—and no implements of husbandry, save one or two of trifling importance, with the exception of some beautiful samples of Nourse's iron plows. At the *plowing match* some dozen teams were engaged, and from the implements used, and the reputation for skill of the plowmen using them, we have no doubt that the work was well done. The attendance upon the field was much smaller than usual. The show of fruit in Exhibition Hall was of a very superior character, —equal to that of the Massachusetts Horticultural Society, which was on exhibition at the same time. Nothing, it seems to us, could be finer than the apples and pears presented. There were a few excellent vegetables, one bag of wheat, two of barley and a few traces of seed corn. The exercises at the table were eating the dinner, a few words from the President, an address by Dr. LORING, of Salem, an hour long, upon national topics, beautifully written and delivered, and remarks by Dr. FISHER, the delegate from the North Worcester Society. The usual spicy after dinner speeches were wholly omitted, as well as the reading the awards of premiums and the reports of Committees! In the business meeting, the old board of officers was re-elected.

WOOL-GROWERS' CONVENTION.

By a resolution of the Directors of the Vermont State Agricultural Society last winter, a Wool-Growers' Convention was called for the first day of the fair at Rutland. This was an experiment, to see if wool-growers could not find something of interest to talk about, as well as horse-breeders, and those engaged in other branches of agriculture. It was thought to be an interest which Vermont farmers should talk about. Still it was feared that enough of them to make a meeting interesting could not be got together, or that the meeting might fail to be sufficiently interesting to make it worthy of repetition. In all this, fears have proved groundless. It was held Sept. 9; it was well attended; it was exceedingly interesting; and it was unanimously agreed to be continued.

The President of the society, EDWIN HAMMOND, of Middlebury, who is a large breeder of valuable fine-wooled sheep, such as he sells from $25 to $500 each, opened the meeting by a few pertinent remarks upon the great interest Vermont has in the wool business, and the importance of wool-growers meeting together to discuss that interest, and then introduced the Secretary of the society, DANIEL NEEDHAM, of Hartford, Vt., who gave a very interesting address, containing some valuable statistical matter, among which we noted the following. He said, in substance:

We not only clothe ourselves neatly and comfortably, but in doing it, we use up all the wool that the country produces, and large quantities of imported wool, beside imported fabrics. Farmers for want of information disposed of much of their wool at ruinous sacrifices, when the war broke out —in this State below the cost of production.

In 1861 we imported $5,000,000 value of wool and $28,000,000 value of woollen fabrics, and that was $10,000,000 less than in 1860. The range for three years has been $35,000.000, to $45,000,-000. We import the products of 13,000,000 of sheep, which we had better keep in this country. This proves that we are in no immediate danger of getting too many sheep.

The increase of population in the United States would require the wool of 3,000,000 of sheep.

No animals are so well adapted to Vermont pastures as sheep, and none so productive.

In 1850 the number of sheep in the State was a little over a million, and the yield of wool a trifle over three pounds a head. By improved care this yield has been largely increased.

In 1850 the total of sheep in the United States was 21,723,000, averaging 2½ pounds of wool per annum.

We read of the great care bestowed upon some of the fine-wool flocks of Europe, without seeming to be aware that equal care is bestowed upon some flocks in Vermont.

To show the need of protection to the wool-grower, as well as to the manufacturer, look at the prices of imported wool. In 1861 it averaged 11½ cents. It comes mostly from South America, where the principal cost of production is shearing the sheep.

While we can produce every grade of wool needed in this country, we should be independent of any other country. Protecting the manufacturer does not wholly protect the wool-grower. One of the great needs of legislation is a repeal of the "reciprocity treaty," the benefits of which are all on the British side.

Give equal protection to all the great interests of the country, and all honest men will be satisfied.

The prospect of the next few years is very encouraging to the wool-growers. In consequence of the supply of cotton being cut off, we shall use more wool beside the great demand for army purposes. We had no surplus last year, and the clip of 1862 was very early bought up, and the price has continued to advance.

The great practical question, and the one for which this convention was called principally to discuss, is, how we shall prepare wool for market. Is it most advantageous to the farmer to sell his wool washed or unwashed? The buyers usually make about 25 per cent. difference between washed and unwashed wool, but no discrimination between that which is thoroughly clean, and that of a man who has only washed his sheep to make his wool sell at a higher price, while it is but little lighter than that sheared without washing the sheep. The conscientious man has very little encouragement.

The question of the health of the sheep—whether it is injured by washing and carrying the fleece till very warm weather—is an important one for farmers to discuss, and if possible, produce a uniformity of action.

The improvement of Vermont sheep has been wonderful. In 1840 there was not a buck in the State that would shear 12 pounds. Now there are plenty that give 20 to 25 pounds, and it is not made up of oil and dirt, but will give 60 per cent. of genuine, clean wool.

With such bucks to be had, there are men who still keep their old native stock of sheep; and generally the same men have unimproved cattle, and work with the old wooden and wrought-iron plow.

After trying all sorts, the majority of Vermont wool-growers have settled upon the Spanish merino as best adapted to their soil and climate, and mountain pastures.

The average cost of keeping sheep is estimated per annum as follows: Illinois, 60 cents; Iowa, 75c; Michigan, 83c; Virginia 60c; New Jersey, 60c; Pennsylvania, 50c; Maine, $1; California, 75c; Vermont, $1,30.

The average increase in Vermont is 70 per cent.; in Ohio, 80; Virginia, 99; New Jersey, 80; Maine, 90. Still, Vermont leads all the States in wool-growing, and production of valuable sheep for sale, which we furnish to nearly all the other wool-growing States, which buy our bucks at $200 to $500, and ewes at $25 to $50 each.

In this day of trial of our country, there is no way we can serve it better than in studying to improve it, and increase its wealth, and make wealth and civilization twin sisters. If our country demands all of our young men, their wives, sisters and mothers will unite with the old men to sustain Vermont agriculture during this great contest between "Liberty and Slavery."

After the close of Mr. Needham's address, D. E. NICHOLSON, of Wallingford, was called up, and he gave the convention a stirring, short speech, in his happiest mood. He said that he hoped all Vermont would not be carried away by his friend Needham, and rush into the wool business, because there was a great beef and dairy interest in the State, which it was not worth while to forsake at once, because the sheep farmers were now reaping an extra harvest. He thought, however, a wool-growers' convention was not exactly his place, as he kept no more sheep than the law allowed, but he sold the clip of them of two years yesterday, and supposed by that means had got into this good company of Vermont wool-growers—these developers of the boundless wealth of the mountain pastures of the State. We ought to cherish sheep as a mine of wealth, and with this view we ought not to cherish 30,000 dogs, nor tolerate their owners, unless they are able to give bonds for their good behavior. The highest interest of the State demands a dog law, and wool-growers should declare that they will have one, and that the effort to pass such a law shall not be put down, as it has been, by the owner of a bitch and pups, or who had some friend that owned such stock, whose vote he was anxious to secure, and therefore would defeat an effort to rid the State of such a nuisance as our host of worthless curs.

Mr. MARSH, of Clarendon, moved a vote of thanks for the address of Mr. Needham, and that 1000 copies be printed for distribution. In regard to shearing sheep without washing, he has fully tried both ways, and is convinced of the advantage of not washing. We can shear our sheep a month or two earlier, and they suffer less. I sheared May 1, and it was followed by a cold storm, but I sheltered the flock, and they did not suffer as much as sheep often do in June, after washing and shearing; and he was satisfied that the sheep winter better if sheared early, without washing.

SOLON ROBINSON, of New York, being called upon, gave some information relative to sales of mutton sheep, and growing lambs for the New York market, and about the prospects that wool-growers have before them. About washing sheep, he said that he had come to the conclusion, after careful consideration of the subject through a series of years, that a farmer cannot afford to wash. The manufacturer can cleanse the wool cheaper than the farmer. He urged farmers to carefully try the experiment to see which course brings the most money. He used to think it cruel to dip sheep very early in the spring, but has lately become satisfied that they suffer less than they do if washed and carry their fleeces late in June. Owing to the short supply of cotton, it is evident that we must clothe ourselves much more in woollens in future; and this will increase the demand more than wool-growers can supply at present high prices; and this should encourage them to persevere in all improvements. If the price again recedes, remember that New York always furnishes a market for over half a million mutton sheep a year.

NATHAN CUSHING, of Woodstock, said that our fine-wool flocks have been continually improving for thirty years, and that it is an art to keep up improvement that must be learned, but it is

worthy of attention of Vermont farmers, whether they cannot profitably increase the production of mutton sheep. According to information given us by Mr. Robinson, it is a profitable branch of farming.

JUDGE COLBURN, of Springfield, Vt., thought if all wool-growers could be induced to adopt the rule not to wash sheep, it would be an advantage to the State. At present, the only discrimination in buying, is to deduct one-fourth the price of washed wool, if the same grade is unwashed. If we ever adopt a rule to do away with washing, we shall get rid of very unpleasant, and some think unhealthy work.

A gentleman from Western New York said that the disposition of manufacturers to buy unwashed wool was largely increasing. He knew one who tried 5,000 pounds, year before last, as an experiment, which satisfied him so well, that he bought 80,000 pounds last year. In his own experience he had proved that unwashed sheep winter better than they do when washed and sheared a month later.

A resolution was now introduced by some one, and read by the Secretary, that it is the sense of this convention that we should strive to produce wool, and not oil. This was evidently intended as a hit at those who run upon a strain of sheep with very oily fleeces. The resolution was debated quite earnestly, and at first seemed likely to pass, but in the end would have been almost unanmously voted down, if it had not been withdrawn. So much for the advantage of discussion.

JUDGE COLBURN thought that although Vermant has the best flocks in America, we are tending too strongly toward producing very oily fleeces, which weakens the constitution of the sheep. Some of the high-priced bucks sold to go West, have two pounds of oil to one pound of wool.

SOLON ROBINSON thought it all resolved into a matter of dollars and cents. If it is more profitable for a farmer to procure oily fleeces, he should not vote for this resolution. It is not a point of morality, but a point of interest, that he has to settle, and he did not believe it was for the interest of Vermont farmers to adopt the spirit of this resolution.

Mr. MARSH thought it was not good policy to change our course of breeding, while we find ready sales for wool, and while the bucks that are most oily, are sought after to cross upon Western native sheep. Farmers must look to their own interest, and that will regulate the production of oily wooled sheep.

DANIEL KIMBALL, of Clarendon, thought that voting for this resolution would tend to hurt the credit of Vermont sheep, as a sort of confession that they were generally too oily.

Mr. LESTER, of Rutland, moved to lay the resolution on the table, as it was useless to adopt it, since farmers would raise such sheep as were most profitable.

JUDGE COLBURN thought it would not be so easy for farmers to sell their wool in peace times as now, full of grease and dirt.

Mr. CUSHING said that many breeders are now satisfied that very oily sheep are not as profitable as others that keep up the same fineness and length of fibre, with just oil enough to protect it. He is satisfied that very oily sheep are not hardy, and that some of the most profitable Vermont flocks show a small amount of oil. He has sheared bucks of this kind that gave 16 to 20 pounds of wool.

GEO. CAMPBELL, of Westminster West, thought that much of the oil was made by feeding; that he could by that means make the same sheep show more or less oil. He is sure that those that run most to oil are of a weaker constitution than others. He had travelled much in this country and Europe in pursuit of knowledge about sheep, and is satisfied that Vermont has the best stock in the world, better than Spain. He has tried all sorts, and settled upon the Spanish merino as the most profitable breed; and he is also satisfied that it is not profitable to wash sheep, because by not doing it, he can shear early, say about May 1, and protect the sheep a few days, and they are not injured, and he thus saves wool. When he used to wash, and turn out to pasture, much wool was lost upon briers and bushes.

He is sure that, one year with another, his clip sells for more money unwashed than it would washed, and he saves the labor and health of his sheep. The wool clipped early looks better, and often is better, than washed wool. Some buyers think that heavy fleeces must be dirty; and, to avoid this objection, he has divided and tied up two to a sheep, and then they sold without any objection. It is now ten years since he has practiced washing sheep.

Mr. CUSHING practices the same plan of dividing heavy fleeces, and finds it works well.

An old farmer present remarked that he had learned something in this respect to pay him for the trouble of attending this convention.

It was unanimously voted to continue to hold similar meetings at each State Fair, and that the question discussed here, be earnestly considered by all Vermont wool-growers.—S. R. *in N. Y. Tribune.*

For the New England Farmer.

RICHMOND PRICE CURRENT FOR JULY.

It may amuse your readers to look at the prices of provisions, groceries, &c., in the city of Richmond, in the month of July. When my informant left, prices were still advancing. This statement is entirely reliable, coming from a cousin who has made his escape from that city, after serving as clerk in a store the past year. He passed a week at my house, and has come to the conclusion that rebellion is expensive and terribly inconvenient.

Fresh beef, lb	62½@75	Cotton cards, pair	$25
Fresh pork	None.	Tea, lb	$16
Salt pork, lb	$1,00	Coffee, lb	$3,50@5,00
Hams, lb	$1,00	Mustard, small can	$5
Fresh and salt fish	None.	Brown sugar, lb	$1,00
Cheese	None.	Molasses, gal	$6,00
Butter, lb	$1,50@2,00	Candles, lb	$2 00
Eggs, doz	$1,25@1,50	Morphine, oz	$40
Potatoes, bush	$16	Calomel, oz	$25
Cabbages, head	$1,00	Quinine, oz	$25
Onions, each	25	Atlantic sheeting, yd	$1,50
Bar soap, lb	$1,50	Prints, yd	$1,00@1,25
Starch	None.	Heavy wool filling jeans, per yard	$16
Salt, per sack, made in Va., and poor	$90	Satinetts, cassimeres and woolen dress goods	None.
Milk, quart	25	Coates' spool cotton, each	$1,00
Boots, pair	$25@35	Brooks & Clarke's, do	60
Shoes, pair	$15@20	Sewing silk, skein	30
Ladies' gaiters, pair	$15	Linen braid, lb	$9,00
Soft hats, each	$16	Powder, lb	$8
Dress coats	$60	Revolvers, each	$50
Pants	$20		

New York, Sept. 12, 1862. P.

For the New England Farmer.

RETROSPECTIVE NOTES.

"Fever and Dysentery"—Sudden Changes in Diet, &c.—In the issue of this journal for Sept. 6th, the editor, under the first portion of the above heading, has given to his readers several valuable and seasonable hints in respect to the avoidance of the above-named diseases, as well as of other minor ailments which are apt to occur about this time of year. From a wish to second the benevolent and judicious efforts of the editor to enable his readers to escape a great deal of danger and suffering, common at the autumnal season, we yield to the impulse which prompts us to commend the article referred to, as worthy of a second, or even a third or fourth reading, which we can do most cordially, as the advice and suggestions contained in it are really as judicious as if they had been written by one of the oldest and most sensible physicians in Boston, and as we feel sure that those who will fix them firmly in mind and memory, and make practical application of them, will be likely to escape disease and suffering which might otherwise happen either to themselves or to their families. A great deal of the sickness which mothers and doctors have to attend to during the fall might be avoided, if such precautions as those recommended in the article under notice were more generally adopted. The bowel complaints and other ailments of children, as well as of adults, at this season of the year, are probably as frequently owing to sudden changes in temperature, exposures to damp and cold, and the want of sense and care which should adapt the clothing to these changes and exposures, as they are to errors in diet, and the immoderate consumption of fruit and vegetables. We would add, therefore, to what the reader will find in the article under notice, as to sudden checks to perspiration, and exposure to night air and currents of air, that during cool and rainy days, and when the mornings and evenings are quite cold compared with the heat of the day, more than usual care should be taken so to adapt the clothing, and of children more especially, to the atmospheric condition and temperature that there shall be no chilliness of the surface of the body. There is, without question, much carelessness in this respect as to children, and physicians of discrimination and benevolence have often been able to trace complaints which they have been called upon to prescribe for, about this season of the year, to a negligence which has surprised them, in regard to adapting clothing to the changes of the weather. When mornings are cool or cold, and when a day of rain, raw, east wind, or other uncomfortableness occurs, the clothing should certainly be different from that well enough for the warmer mornings and days of the season, though both children and adults may be often, at such times, going about in garments fit only for the warmth of summer. There should also on many such occasions be a fire kindled in the sitting-room.

But this is wandering somewhat from our purpose, which was, not to give details as to management, but to second the efforts of the editor in warning his readers to avoid a cause of sickness which is not known to be such, or avoided as such when known, as much as it should be. That cause consists chiefly in sudden checks to perspiration, sudden changes in the weather, chilliness of the surface from want of sufficient clothing and such like conditions, all tending to drive in the blood upon the internal organs, and otherwise to derange the functions of the system.

There are several other suggestions in the article under notice, which are of value as helps to the preservation of health, such as those relating to a sparing use of fruits and vegetables, making the fruit a part of the meal, changing clothing as the temperature changes, &c.

"The Season and Crops."—In an article with this heading on page 394 of current volume of this journal (Monthly) the writer remarks that "hay is not injured by standing in cock for several days, if properly capped," and adds that he rather thinks it better made so than in any other way. Upon this the editor makes a comment as follows; "We have no doubt but it is at least ten per cent. better. Let the grass be thoroughly wilted, or half-made, then cock it, cover with caps, and let it remain from twenty-four to thirty-six hours, then throw it open to the air and sun for three or four hours, and the hay will be as perfectly cured as it can be. It will not be brittle and break, like so many dry twigs, nor bleached until almost worthless, but soft, fragrant, and of a cheerful light green color, and full of tallow and milk, or what will abundantly make them."

Now, as not every farmer is provided with caps, (though before the great rise in the price of heavy cotton goods, which is one of the evil fruits of this wicked, fratricidal rebellion, and that accursed clinging to "the sum of all villanies," which is the fountain of the rebellion, an investment of a few dollars in these articles was usually a paying one,) we would suggest that hay can be made, and has been made, of just as bright and fresh a color, and of just as nutritious qualities, without caps, as ever was made with them. For several years it has been our aim to make hay, especially that which was all or mostly clover, in just the way described, that is, so far as putting it up in cocks when only about half-made, letting it remain so from one to three days, and opening it out to the sun and air a few hours before drawing it into the barn, are concerned. Some years ago we made hay in this way, which was the admiration of all who saw it, for its beautiful freshness and green color, and the delight of every creature to which it was offered, and when not hurried in the making of hay by weather or want of help, we have done the same repeatedly since. And what has been done can be done again. Try and see. More Anon.

Remarks.—Certainly. But what if it rains some portion of nearly every day, as has been the case with us, this summer? However, we do not urge the caps, with cotton at twenty cents a yard.

Pillars of Sand in the Desert.—The deserts of Arabia are among the most remarkable places in the world, and are especially remarkable for their pillars of sand; they are raised by whirlwinds, and have a very close resemblance in their appearance to waterspouts. The places where these pillars of sand most frequently occur, are those portions of the deserts which are near to a river or the sea. The pillars of sand in the des-

erts of Africa are very magnificent; the raised sand is in wavy and rounded lobes, which have a curling motion, like that of smoke; and both the apex of the entire pillar, and the extremities of the lobes, are shaded off to a very indefinite outline. The mirage is another very singular feature of the deserts. The traveller very frequently sees rising, as it were, before him, some great city or lovely village; he hastens onward, full of eager anticipation to receive refreshment, and ever as he goes, the image recedes from his advancing steps, and he discovers, perhaps, only too late, that it was an image formed by the refraction of the sun's rays in a particular direction, upon an atmosphere somewhat hazy and opaque.

EXTRACTS AND REPLIES.

POSTPONEMENT OF CATTLE SHOWS.

"ESSEX" asks the reasons, *pro* and *con*, for giving up our cattle shows the present year, as has been done by several societies. I am free to say that I have heard no good reason for so doing. What though our country be agitated by intestine commotion? What though money be hard to be earned? What though our young men are needed on the battle-field? These reasons, one and all, are not sufficient to justify the abandonment of the ordinary pursuits of life. On the contrary, much greater is the necessity of pursuing them more strictly. Let the middle-aged be called away, the young must stay to provide for the old and the helpless—the women and the children. In any way you can fix it, three-quarters of the whole will remain at home. The project is a mistaken one, and will never be entertained for a moment by any sound mind. Away with all such fancy stuff. CANDOR.

September 12, 1862.

CURE FOR GARGET IN COWS.

I have been a constant reader of the *Farmer* for the last ten years, and am so pleased with it that I have caused quite a number of copies to be circulated among our farmers. I would not be without it for double the expense.

A question has recently been asked, "What is a cure for garget in cows?" I feel it my duty to answer this question, and it is a sure remedy:

1. Take a piece of garget that is good, the size of your little finger, make a deep incision in the brisket of the cow, put in the garget and let it remain.

2. Take two pounds of sulphur and one of saltpetre, pulverize the latter and mix them together; give one table-spoonful twice a day in shorts or meal, the former preferred; use up this compound, and I will warrant a cure. ED. KEASOR.

Upper Gilmanton, N. H.

AGRICULTURAL EXHIBITIONS.

I perceive an effort is making in some quarters to divert attention from these to the more pressing and urgent wants of our country. It would seem to me that both can be duly regarded at the same time. All will admit the imperative necessity of doing everything that can be done for the salvation of the institutions of our country in their purity; but does it follow when we are acting honestly for the advancement of agriculture, we are acting adversely to the best interests of the country? Far otherwise would it seem to me. He who learns how to make two spears of grass, or two ears of corn grow, where but one grew before, is the true patriot—in whatever field he may labor.

Sept. 20, 1862.

MAKING ICE BY MACHINERY.

The following is an account given in the *World* of a patent improved ice-making machine, manufactured by D. Siebe, Lambeth, London. This machine is in actual use in India and Peru, where it produces ice at the rate of from two and a half to six dollars per ton. The principle upon which the machine is constructed is an application of the well-known natural law, that by evaporating fluids the caloric contained therein passes off with the vapor, thereby reducing the temperature of the evaporating body. In this process a volatile fluid steam is used as an evaporating agent; a powerful pump forms a vacuum, and in its efforts to do so assists the evaporation at a low temperature on the one hand, and by pressure, with the assistance of water at an ordinary temperature, reduces the vapor again to fluid on the other hand, thereby using and re-using the same volatile fluid without loss. No chemicals of any kind are used. To talk about *making* ice in the United States may at first sight seem absurd. I am not so sure that it is so in all localities and under every condition of things. But there is a purpose to which this ice-making machinery is applied which may be deserving of attention in the United States. It is proposed to cool hospitals by this machinery on the converse principle by which buildings are warmed. It has been proved by experiment that this is practicable, the inside temperature of a chamber having been reduced to within six degrees of the freezing point, while the thermometer outside ranged at 90° Fahrenheit. In the progress of the war something of this sort may be very desirable. The machinery for making a ton of ice at a time might be carried on a large wagon.

POVERTY.—Bulwer says that poverty is only an idea, in nine cases out of ten. Some men with ten thousand dollars a year suffer more for want of means than others with three hundred. The reason is, the richer man has artificial wants. His income is ten thousand, and by habit he spends twelve or fifteen thousand, and he suffers enough from being dunned for unpaid debts to kill a sensitive man. A man who earns a dollar a day and does not run in debt, is the happiest of the two. Very few people who have never been rich will believe this, but it is as true as God's word. There are people, of course, who are wealthy, and enjoy their wealth, but there are thousands upon thousands, with princely incomes, who never know a moment's peace, because they live above their means. There is really more happiness in the world among working people than among those who are called rich.

BEECHER says: "Never chase a lie. Let it alone and it will chase itself to death. I can work out a good character much faster than any one can lie me out of it."

RETURN OF AN ARCTIC EXPLORER.

The barque George Henry, Capt. Buddington, arrived at New London, Conn., early on the morning of the 13th inst., having on board Mr. C. F. Hall, the Arctic explorer, whose history of his expedition is very interesting. We find the following statement in the correspondence of the N. Y. *Herald:*

He arrived in the Arctic regions late in 1860, and, as the seas were so free from ice, he was very anxious to proceed immediately with his mission; but, notwithstanding the bright aspect of affairs, he wisely took the counsel of the Esquimaux, who would not consent to make up a boat party for the purpose of prosecuting the work.

The intervening time was occupied in learning the Innuit or Esquimaux language from the natives, whom, by their contact with the whalemen, he was enabled soon to understand and be understood. In the matters of clothing and food Mr. Hall adopted the Innuit style, and was dressed in skins and fed upon raw meats, with a due share of blubber.

During the long and weary winter months Mr. Hall was not idle, for with his boat he settled the fact that Frobisher's Strait was only a deep indentation or bay. On the 21st of August, 1861, he stood on the high land at the northern shore, and saw the whole sweep of land around the bay. On the 27th of September, 1861, the frail boat upon which he so much depended, was totally lost. Fortunately at the time two English whalers were in a bay—longitude 62 degrees 52 minutes west—and Captain Parker, who commanded one of them, promised Mr. Hall a boat, which he was to leave at a designated place for his use. By some means the Englishman did not leave the boat, and Mr. Hall says he thinks the ships were blown out of the bay; and yet he is anxious to hear the true history of the case. The cause of humanity demands an explanation also.

Mr. Hall returned to the George Henry, and learned that the schooner Rescue or 'Amaret,' a tender to the barque, had been lost in the gale of the 27th September. In reference to Frobisher's discoveries, it appears that the ancient navigator and explorer entered this bay, and finding that his progress was impeded by fixed ice, supposed that it must be an open strait frozen over, and the British government has never since pushed its further exploration. The lay of the land is very different from the lines laid down upon the charts now in use. This fact is and has been known by the whalemen who frequent its locality; but they supposed it to be a strait. But no official change has been made by any government.

Mr. Hall has a very large and carefully prepared chart of this bay, and will in due time publish it to the world, but at the present time he deems it proper to withhold its features.

In 1861 his explorations were renewed with energy. He had become acclimated, and was fully alive to the amount of work which was before him. A whaleboat was now procured from the George Henry, and with a crew of six Innuits, male and female, he started on his northern journey. The natives take their families with them when on these expeditions, and the women pull an oar with the men. Dogs are also of the company, and several native boats are taken for the purpose of hunting and fishing with. Thus provided with *personnel* and *materiel* they started, living on prepared food in small quanties, but mainly depending upon the game captured on the way.

Mr. Hall went to Countess of Warwick Sound, and after much difficulty succeeded in discovering the place where Frobisher attempted to plant a colony. A considerable time was spent here in obtaining relics of that ill-fated colony. At nearly every place of their debarkation relics were found consisting of pieces of coal, brick, wood, and a portion of a cannon shot, which might have been used as boat ballast.

The coal had been overgrown with moss, and a dark vegetable growth; the brick looked quite fresh and new, the wood was simply chips, which, although embedded in the coal dust for nearly three hundred years, are well preserved. The piece of iron is well worn with the rust of so many years.

One of the most palpable facts in connection with the discovery of these people of "ye olden time" is that Mr. Hall discovered a trench twenty feet deep and one hundred feet long, a species of dry dock, leading down to the water. In this excavation the party of Frobisher's men who were captured by the Esquimaux on his first voyage, with the assistance of some of their captors, built a small vessel, in which they were to embark and sail for England. In due time she was completed and put to sea, but heavy weather coming on, and their vessel proving unseaworthy, they were soon obliged to return. All of this crew were severely frost-bitten. Despairing of ever reaching their native land, and being severely frost-bitten, the captives soon died.

The facts of their mode of living and attempts to reach England were gathered from the Innuits. Mr. Hall says that the traditional histories are remarkably clear and explicit, and can be relied on to the greatest extent; and I believe that those who have been familiar with this class of people coincide in the same opinion.

The information respecting the fate of two of the boats' crews of Sir John Franklin's expedition is not yet as clear as could be desired. The facts are these:

While on one of his sledge journeys in 1861—for he has made several—a party of strange Innuits came to his stopping-place, and from them he learned that three years ago two boats' crews came down Hudson's Straits, bound through the straits. These men, "cudlemas" or white men, stopped on one of the Lower Savage Islands (which lie near the mainland on the north side of Hudson's Straits,) and here they left what the Indians called "soft stones." One of the natives who knew the use of firearms, saw the "soft stones" and pronounced them to be leaden bullets. All traces of these men were subsequently lost, and Mr. Hall, not knowing that the Kitty, a Hudson's Bay Company ship, had been lost there five years previously, supposed these two boats' crews to be a portion of the Sir John Franklin expedition, from the fact that that regretted explorer, not knowing how long he might be detained in the ice, had laid in a very large supply of ammunition and leaden bullets, and that quantities had been taken in the boats when they left the larger vessels; and in their endeavors to get through Hud-

son's Straits, to Labrador, they had thrown away all cumbersome articles and thus the bullets came in this place. Of this matter Mr. Hall will make some further search in history before he will permit his inferences to have too great a weight in his narrative.

Mr. Hall has discovered a very large and interesting mountain of fossils at the head of Frobisher's Bay, which has furnished him the materials for an extensive scientific article on that abstruse subject.

He also discovered an immense glacier near Queen Elizabeth's Land. This he named the "Grinnell glacier," in honor of Mr. Henry Grinnell. It exceeds three thousand feet in height, is one hundred miles long and fifty miles in width.

Mr. Hall has brought home with him a very interesting family of Innuits or Esquimaux. E-bierbing, the husband, is a fine-looking fellow, about twenty-four years of age, but he is not so large and good-looking as was Cad-la-go. Tuk-oo-h-too, the wife, is about the same age as her husband, and is the interpreter. She is the best interpreter in the Arctic regions. Her knowledge of the country and its traditions is wonderful, and any explorer would feel justly proud of her services. Tuk-er-lik-e-ta, the infant child, is one year old, and is a fine child. The father and mother went to England some years ago and were presented to the Queen. They, of course, are not so much surprised at seeing a civilized country.

RIPENING OF FRUITS.

A short article on the tomato, by Y., in our present number, is worthy of more than passing attention. The writer found that tomatoes, suffered to lie in their natural position on the ground, ripened earlier than those trained to any form of trellis. This exactly accords with our own observations. And it is in perfect unison with all that we have taught since the organization of the *Gardener's Monthly*; not, indeed, in regard to tomato culture, but in connection with the general theory of ripening fruit. Yet, there is not a more widely spread error, than the common belief that fruits must have "all the sun and air possible to ripen them early and properly."

Thus we see everywhere around us, numbers of excellent practitioners stripping their vines of foliage to "let in sun and air to ripen the fruit," and if there is one spot on the ground more sunny and exposed "to the air" than another, that spot they are sure to select for some apricot or choice fruit that they particularly value.

It seems to be forgotten that fruit ripening is in the main a vital process. Chemical action is of course essential to it; but it is dependent on vegetable life. This vitality is maintained by well-developed and healthy foliage, and this again is dependent on the general health of the plant.

All pruning is more or less detrimental to the general health of the tree. Winter pruning or summer pruning, the effect is the same. Pruning is but a compromise.

To gain a great object, we sacrifice small advantages. In pruning, that sacrifice is drawn from general health. We break off a strong shoot while green or succulent, that it may not rob a weaker one below; or, we shorten a weak shoot in winter that it may push stronger next season. Here we gain desired advantages, but the vital force receives a shock. The more severely we pursue this course, the more we perceive the shock, till, as is well-known, we can take off leaves or shoots enough to utterly destroy the life of a tree. We prune trees at transplanting, just as we would cut off a man's leg; not because the tree likes pruning, or that amputation is a peculiarly pleasing operation, but as a part of that system of compensation which nature demands for broken limbs and broken laws. We gain an advantage, but with permanent loss.

Men like to deal with aphorisms. It is easier to follow a rule than to understand the reasoning; so if we tell a child to "take care of the pence and the pounds will take care of themselves," it will be more likely to be economical than if we read it a long homily as to the reasons therefor. So we shall perhaps, be more generally understood if we reduce all we have said to this, "take care of the leaves and the fruits will take care of themselves."

If we go into a dense wood, where the grape-vine never knew the gardener's knife, and see the vine in its massiness of foliage, rambling over bushes and trees, in dells or ravines, and where the sun's direct light never shines, our "sun and light" friends will expect to see green and unripe grapes: yet no enraptured poet ever dwelt with more pleasure on the "dark black orbs" of his fair angel, than the genuine lover of good fruit may dwell on the dark black orbs hanging in the wildest luxuriance from these extremely healthy, but sun-forsaken vines.

If we look into similar places—not, perhaps, quite so shady, for that is not its nature—and there note the fine healthy leaves of the blackberry, with its fruit black as jet beneath the still shadier foliage, and the bright shining little pearls glistening from every pip; do they not ask you bluntly, what is sunlight to them? And if you are not prepared to answer, go to the garden of some "sun and air folks," look at the hot board fence, facing due south, and tarred to make it hotter; and against it, with large yellow leaves and red ripe berries, see the poor Lawtons languishing for their native shade. Their owner considers Lawton a great humbug; and the blackberry no better than his own fence rows afford. Friend Lawton, forgive that man—while thousands bless you, this unfortunate knows not what he does!

When your gooseberry leaves fall off by mildew, the grape leaves by hail, or the pear leaves by blight; do you have gooseberries, grapes or pears? We need scarcely answer; and yet the same persons, who know they do not get good fruit under these misfortunes, by their very systems of pruning, which "lets in the sun and air," are really working to the same unsatisfactory end.

"Take care of the leaves, and the fruits will take care of themselves." Mr. Buist cleverly showed this, in an article he contributed to an early volume of the *Gardener's Monthly*. He set a novice to shorten in some shoots in his vinery, and before he saw him again, had a few vines nearly stripped of their foliage. These vines had badly colored grapes. They never had before, nor had the rest of the grapes from the point where the defoliating operation ceased.

"Take care of the leaves, and the fruits will take care of themselves." Long before Mr. Buist's article ever saw our pages, a few acute gardeners

were well aware of the importance of the maxim. If they wanted grapes to color "very particularly" well, they shaded the vinery a week before the fruit ripened; "for," said they, "too strong a sunlight has a tendency to ripen leaves, and as soon as they ripen they are no longer of any service to the fruit. The longer we keep our leaves healthy, the darker and better the fruit."

We have preached on this text before, and often. Like little drops of water, our labors have not yet wore much of a hole in the stone of prejudice, as we see but too well in so many vineries, fruit-houses, gardens and orchards around us; but we have faith in water wearing its way through the hardest rock, and while welcoming such experiences as this of our "Tomato culture" correspondent, continue to teach as heretofore, "Take care of the leaves, and the fruits will take care of themselves."—*Gardener's Monthly.*

USE OF LEAVES.

In many sections of our country, oak leaves are extensively used as bedding for domestic animals. They are gathered in the forests in autumn, and stored in some convenient place till wanted. This affords them time to dry, which increases their power of absorption, and renders them more valuable in taking up and preserving the liquid voidings, and also facilitates, through this means, the decomposition of the vegetable fibre when used as a manure. That oak, or other kind of leaves, operate powerfully when spread broadcast on the surface of mowing land is unquestionable; yet this results not so much from the "astringent" matter they contain, as from their non-conducting power. We spread leaves around the trunks of trees, the blossoming of which it is desirable to retard in spring; we apply them also in "mulching," the object of which is to retain the moisture in the soil for the benefit of trees newly transplanted.

When they are spread upon the surface of grass lands, they present, to a very great extent, the action of the solar rays, and thus in a measure deprive the roots of the energizing and vitalizing influences upon which their strength and vigor very essentially depend. Whatever may be the effects produced by leaves, in their crude state upon cultivated vegetation, we see that they are eminently useful in woodlands, where, if they are removed annually, the growth is not only greatly retarded, but arrested.

In compost, also, we may often see the value of leaves tangibly exemplified, for experience has long assured us that few more really valuable accessions can be made to the compost heap or yard, than that obtained from the forest. In the cultivation of young fruit trees, this species of dressing is now greatly valued. From one to two years are required to prepare them for this purpose according to the particular use to which they are to be applied. Any kind of forest leaves will be found valuable for this purpose. All that is necessary is to afford them time to decompose. The foliage of the alder, bass, poplar, willow and other similar trees, is more readily decomposed than that of the elm or oak; but they possess less consistence, and consequently tend less to the increase of the compost heap.

The fact is now generally well understood by practical agriculturists, that the aliment of vegetables, technically denominated HUMUS, is best produced from that class of substances from which plants derive their food. The process adopted for elaborating this important material is attained in a variety of ways; but the most direct method is by the application of substances of an animal or vegetable character in a state of active putrescence or decay. We, of course, are speaking now of organic manures, and in the list of materials shall embrace *leaves*. These, in addition to their organic constituents, possess also matters of an inorganic character no less essential to plants in a growing state, than the former. To illustrate this point somewhat more fully we present an analysis of leaves of the "*Early Harvest Apple.*" The leaves were collected September 30, the tree bearing fruit:

Silica	5.775
Earthy phosphates,	
Phosphate of peroxide of lime	4.875
Phosphate of lime	1.416
Phosphate of magnesia	*trace.*
Silica	5.125
Phosphoric acid	5 359—16.775
Lime	36.398
Magnesia	0.075
Potash	13.179
Soda	11.616
Chloride of sodium	0.060
Sulphuric acid	0.137
Carbonic acid	15.200
Organic matter	2.850
	101.065

PROPORTIONS.

Water	54.341
Dry	45.659
Ash	4.194
Calculated dry	9.163

FOREIGN AGRICULTURAL REPORTS. — We learn that the Department of Agriculture at Washington is just in receipt of the supply of the First and Second Annual Reports of the Board of Agriculture of Victoria, (Australia,) which have been forwarded to the Department by I. M. MATSON, Esq., Secretary, for distribution to the different agricultural societies of the country. The Secretary, in his official letter accompanying the shipment of these valuable reports, expresses the wish to co-operate with American agricultural societies, for the purpose of exchanges of products, and the interchange of communications upon subjects which may be mutually beneficial to both countries. We learn that the reports embrace much valuable information, and will be immediately distributed by the Commissioner among the societies of this country.

For the New England Farmer.

THE ECONOMICS OF SKUNKS.

Society has learned to associate but foulness with this animal. This is gross injustice. Of the aroma of its weapon of defence I have nothing to say, other than that it is a most capital defence, and to this every man, woman and child will agree. The quadruped itself has a neatly-cut and finely-shaped head, with eyes bright as diamonds, and teeth of ivory whiteness, contrasting finely with the blackness of the hair. The skunk usually lies quietly in his burrow by day, and with nightfall steals quietly forth in search of food. The movements of the animal are very quiet, and the white portion only of his hairy coat (he wears a long-tailed one,) being visible, the mind receives a strange impression, as the apparently shapeless object flits noiselessly by. On issuing forth he greets his mates with a low, suppressed bark, resembling that of the grey squirrel; the bark, on still evenings, can be heard at a great distance, and is eagerly awaited by the country boys, who, with dog and gun, are ready for their game.

On what does the skunk feed? "Hens and chickens," exclaim half my readers. It cannot be denied that the animal has something of a weakness in this direction, therein exhibiting a fine taste, as all will allow; but then I suspect that the skunk's poultry suppers are about as rare as the negro's turkey dinner—"When Sambo gets nuffin' else he gets dem." The principal food of the animal is large insects, principally of the beetle family. When I take my morning trip to "George's lot," across the pastures, I observe numerous little holes, freshly scratched in the turf, which I doubt not were made by his skunkship during the night in search of his game. An eccentric townsman, now deceased, ranked the flesh of the skunk among his favorite dishes; whatever may be said against the delicacy of his tastes, this much is notorious, that he once imposed a cut of it, nicely cooked, on a friend, who ate it as excellent veal or pork, I am now uncertain which. I declare the skunk to be a first-rate rat exterminator—and as this is the great point in my economics, I will detail a little.

I was most sadly troubled last season with rats; they cracked my beet seed, stole my peas, gnawed my potatoes in the ground, ate my squashes on the vines, and husked and ate my seed corn as it grew; they massed under my barn, made every hole in the walls an abiding-place, yea, more, burrowed in the ground like squirrels in "George's lot," and seemed to be in a fair way of changing owners. I did the best I could with trap and poison, yet could not make a very perceptible impression on the gnawing, thieving hosts.

It became a very serious question with me—a seed-grower—this season, how I should dethrone these intruders. I rejected all manures that would tend to attract them, and prepared a good mousing cat. I hesitated for awhile as to the policy of keeping pigs under the circumstances, but finally, the quantity of waste material that could thus be changed into manure turned the scale. After putting in the pigs, I awaited the rats; a week went on and but one rat showed himself, and he was hurrying from the premises as fast as possible. This was a puzzle—who or what had banished them? About a couple of weeks ago, while pulling weeds during a fine moonlight evening, a skunk crept quietly out from under the barn and disappeared among my bush beans, which grew thereby. The thought flashed into my mind at once—this is the self-instituted banisher of the pestiferous rhodents. I incline to the belief that the cold of winter drove the rats who dwelt in the walls and burrowed in the ground to the shelter of the barn, and when his skunkship presented himself, the whole tribe vamosed from such unsavory company. I have examined my crop in the vicinity with some care, and perceive no damage. That skunk is invaluable to me. I vote him the freedom of the premises. May his years be many.

J. J. H. GREGORY.

Marblehead, Mass., 1862.

For the New England Farmer.

STATE AND COUNTY SHOWS.

I observed in one of your late papers the following communication:

"In the published account of these, I perceive an omission of many names that I have been accustomed to see in years gone by; and what is more, that some State and County Societies have deliberately determined not to have a show or fair during the present season. This presents a question of vital importance to the farmer: Are these shows, as a whole, productive of real benefit? Or are they mere *holidays* for the gratification of the rabble? No one has taken a deeper interest in these shows, for the past *forty-four years*, than I have myself,—never having failed to be present at the show in my own county, and often in other counties and States. I should like to see the reasons for and against such shows, fairly stated. I believe the topic to be of vital importance to the agricultural community. ESSEX."

The inquiries of your correspondent are important, and well deserve an answer. I am inclined to think that our cattle shows, as they are now conducted, are of little or no practical value. I object to the amalgamation of the horse fair and cattle show. At the horse show at Springfield, the main purpose was to test the capacity of the horse in a trial at speed. Mr. Botts, of Virginia, who was present on that occasion, remarked: "You censure us for horse-racing, but if this is not horse-racing, what is it?" The same remark applies with equal force to the trial of speed at our cattle shows. It is an attempt to *inoculate* them with the barbarism of the South. I have no doubt that the southern States rejoice to see us walk in their footsteps, and I have no doubt that they would like to have us follow their example in every other particular. It remains to be seen whether we are to follow them or they are to follow us.

I object to horse-racing because a mere race horse is generally unfit for anything else, nor is it essential to a good horse that he is able to trot a mile in three or four minutes; such high-spirited animals are generally wild and reckless, no woman can drive them, and few men would wish to do it. What the farmer wants is an animal for draft and work, one that is kind, manageable and efficient.

I object to horse-racing because it leads to betting, gambling, drinking and fighting. These are its usual concomitants at the South, and the same consequences attend it more or less at the North. A very serious affray of this sort occurred at the Concord cattle show a few years since, while this horse-racing fever was in full blast. It is thus no-

ticed by the delegate of the Board of Agriculture: "In closing this report I wish to call the attention of the Board to a transaction that occurred on the grounds of this Society, near the closing hours of its exhibition. An intoxicated Irishman, in a fit of drunken frenzy, with a dangerous weapon, stabbed two men severely, and, as was feared at the time, fatally. It is a question whether our Societies are sufficiently guarded and empowered by legislation to protect themselves from scenes of a similar character."

Some societies have offered premiums to female equestrians, who show the most skill in riding on horseback. If anything could lend enchantment to the scene, it is a display of this kind, where young lady competitors play the part of a jockey. Can it be supposed that our legislators would ever have made an annual grant to each Society of six hundred dollars, if they could have anticipated that a part of the money would be employed in patronizing the race course? In one of the slave States I noticed on the stand several young ladies, apparently the daughters of planters, who frequently bet on the horses, and if the ladies here take the lead in the race, it would not be strange if they took the lead in betting. Now what is the consequence? It draws off attention from the great concerns of agriculture, and fixes it on things which are worse than useless, which are pernicious. I object to the race, because it pampers the love of dissipation. It is a dish catered for various appetites, and will always find a good market among the rabble.

Another objection which I have to the management of the cattle show is, that those who are selected to deliver the annual address are generally persons who have no practical acquaintance with farming, and are, therefore, unfit for the task. Accordingly, some of them have broached the wildest theories which can be imagined. A few years since, one undertook to advocate the introduction of agriculture as a branch of study in our common schools. At the conclusion of his address, the President remarked that the exhibitions of the day had been the best he had ever witnessed, and in saying this I understood him to allude particularly to the address, which had just been delivered. If this be so, *ex uno disces omnes*, from one you may judge of the rest. I shall quote one or two extracts from this address, and then offer a few comments upon them.

"Botany, or the study of plants, grains and vegetables, should be a prominent study in our common schools, *commenced with the alphabet and continued to graduation*, so that every boy and girl fourteen years of age can not only tell the growth and food of every grain, and grass, and vegetable, but also what soil, and season, and fertilizers, are best for it. Chemistry, also, *should be studied from the earliest period to the latest*, as we now study arithmetic and geography. *It is vastly more important for a person to know the prime gases, than the prime numbers.*" This is more easily asserted than proved.

Again,—"Arithmetic, geography and grammar are studied to the neglect of other more important and attractive branches of knowledge. Teachers should be trained in our Normal schools, not in algebra and geometry only or chiefly, but in botany, and chemistry, and meteorology."

The idea, as I understand it, is, that to attain any great excellence or efficiency in farming, the common schools must be converted into high schools, and agriculture must be taught there. In my judgment this is far from sound doctrine. The province of the high schools and common schools is distinct and peculiar. The division of labor must be maintained and preserved; you cannot distract and confuse the mind by a multiplicity of books and studies, without rendering all instruction faint and ineffectual.

The idea of a high school has at first something so magnificent about it, that we are apt to imagine from a liberal mode of reasoning *a fortiori*, that it is the grand concentrated essence and source of intellectual light, and that all the minor institutions of our primary and common schools are only so many opaque bodies which shine only by reflection. This is so far from being the fact, that the very reverse is true, and if these said high schools sometimes dazzle us by their splendor, it is chiefly owing to the conducting media by which the rays of light are brought to a focus.

I know not that I can more clearly express the peculiar influence of both the high and common schools upon the intellectual characters of our population, than by the force of analogy. I would say, then, that the high schools, like the foolish works of imagination, seem to have been got up for show rather than use; the common schools, like the argumentative inductions of a practical and perfect philosophy, serve to feed the mind with solid truth, and give us a rule and a guide which we may carry with us into all the business of life, and apply as often as we have occasion to act, to speak, or even think.

Indeed, there is but little danger of exaggeration in dwelling upon the vast importance of popular education; nor is it at all extravagant to assert that in civilized society a capacity to read, write and cipher seems to second the great endowments of nature by which we are able to speak, to see and hear, and ranks next in importance to them.

It was said, with truth, by Charles the Twelfth, of Sweden, that he who was ignorant of the arithmetical art was *but half a man*; but how much more wretched is that man's condition who has not even mastered the simplest elements of language, and who, from the infirmities of the mind, must be an animal, and bear the burdens of an animal all his days.

We are apt to undervalue many of our blessings from the fact that they are common, and because we have never realized what it is to be destitute of them. Profound learning was never designed to be the lot of all, no more than wealth and independence, and if you were to place the external circumstances of every individual upon the same level, in point of property or knowledge, and yet suppose them as still possessing the same old money-getting or inquisitive taste, they would not remain so a day, no, not an hour. So with what is called a high school, although the external advantage of books and the means of instruction are intended to be distributed equally to all, yet there is nothing mysterious, no magic in the place, which can ever make a blockhead a great genius.

"Pigmies are pigmies still, though placed on Alps."

The strange doctrine that the teachings of the alphabet should be intermixed with those of the high school and college, was a fit subject for ani-

madversion. Its novelty was only equalled by its absurdity. Gov. Boutwell, then Secretary of the Board of Education, was present at the delivery of the address to which I refer, and expressed his dissent from the positions which the speaker maintained and asserted. He declared that the first step in education was to learn to read, and that this was a prerequisite to all future study.

I consider it a great mistake that those who are selected to address farmers at our agricultural festivals, are either clergymen, lawyers or physicians, men who have no practical acquaintance with agriculture, and who have no sympathies with the farmer; mere theorists, who cannot say anything which comes home to their business and bosoms. Accordingly the addresses on these occasions are insipid, uninteresting, and unsuited to meet the wants and wishes of the farming community. I had rather read the *N. E. Farmer* or the *Ploughman*, than to listen to the doctrines and positions which they aim to inculcate. If we want information on any point connected with theology, law or medicine, we look to those who are professionally engaged in the study. Upon the same principle, farmers are best qualified to instruct us in farming.

I have thought, in the present state of the country, that there is a topic of surpassing interest and importance which ought to be presented to our agricultural societies. In the great struggle in which we are engaged everything cannot be achieved by our forces on sea and on land. The agricultural fraternity have a part to perform in the great work of redemption. I wished that some one might be permitted to give utterance to this sentiment, but the prejudice against farmers is so violent and excessive that if an individual intimates a wish or a willingness to express his opinion, (though no one has ever been more backward or unwilling than he, to do it before,) he is laughed at for his presumption, or denounced for his folly.

I know it may be said that this is not always the case, and that Dr. Loring is a practical farmer, and yet he has often been called upon to act in this way. He is indeed an exception, but a solitary one, and his case does not invalidate the general truth of the fact. Dr. Loring is a gentleman of learning and ability, and he has been eminently practical in his addresses to farmers, but it is believed that there are other educated men, who if they do not equal him in talent, might, *in these times*, give an address, which would be acceptable and satisfactory. It has been said that the Essex Society have never gone out of their county to obtain an orator for the cattle show, and it is a shame and disgrace to the commonwealth, that while Essex boasts of her independence, almost every other county in the State has been more or less dependent on her.

Twenty-four years ago the editor of the *Ploughman* delivered an excellent address at the Concord castle show. It was listened to with intense interest, and gave universal satisfaction. Since that time not more than one or two farmers have been invited to officiate at this festival. How is it, Mr. Editor, that we have never had a discourse from your prolific pen? You could give us one quite equal to that of the Editor of the *Ploughman*. Is it possible that you have never had an invitation?

In conclusion, I will answer the question of Essex. I believe the cattle shows, *as at present conducted*, are of little practical value. If they were at once abolished, I think it would not perceptibly affect the advancement of agriculture. For myself it is a matter of no personal interest. From the infirmities of age, I have ceased to go to the cattle show, and to say the least, it is exceedingly doubtful whether I attend another. I notice that the North Middlesex Society have dispensed with their show for this year, and declined the State grant of six hundred dollars. As the State and nation need all their resources of men and money, would it not be well for the other societies to make a like sacrifice during the continuance of the war? We are contending for everything dear and sacred, we need to buckle on all our energies in behalf of the great cause. Let us rally round the flag of the Union, and inscribe on our banners,—our country, our whole country, and nothing but our country. "Liberty and Union now and forever, one and inseparable." A.

South Acton, September 22, 1862.

REMARKS.—We thank our correspondent for his communication, and agree with him in most that he has said. We certainly believe with him that some radical improvements are necessary in the management of our agricultural societies in order to make them worthy recipients of the State bounty. The same things are being done over and over again, and the State's money exhausted upon them, until the intelligent public have lost interest in the old stereotyped routine, and demand a reform. This, we think, should take place, or the bounty of the State be discontinued.

For the New England Farmer.

HUNGARIAN GRASS.

MESSRS. EDITORS:—If the little experience of one season is of any value, I freely give it, not expecting "recompense or reward." I have seen a variety of opinions expressed in the journals in regard to the successes of different experimenters in their reports upon raising Hungarian grass as a substitute for the more common approved grasses. To tell as straight a story as my decaying faculties will admit of, I bought eight quarts of Hungarian grass seed, and sowed it upon half an acre of thin-soiled land, where corn had grown the year before. This half acre was dressed with a light coat of compost of animal manure and mud, and plowed, the seed sowed and harrowed in on the 16th day of May, 1862. It being a new thing with me, I watched it from day to day; its progress was rather slow at first, but my curiosity swelled into astonishment when I beheld on the 20th day of August something like three tons to the acre (after cut and cured) mowed for fodder from my "Wilmington land." According to the best estimate we could make by weighing a part while green, there were over seven tons to the acre. This first cut was purposely for fodder before the seed had matured; the last of August we cut a small part of what was saved for seed standing, and on the 9th of September we finished the lot left for seed. The seed from that harvested 20th of August was very light, and its germina-

tion is doubtful. The seed from that cut the last of August was better, but the seed from that harvested the 9th of September was full grown and perfect. Thus we see for fodder the grass was growing from the 16th May to the 20th August, three months and four days; and for seed from three and a half months to three months and twenty-four days. We saved merely seed enough for our own land. I have found the statements of Mr. Richards, and some other of your correspondents, in regard to the quality of the fodder, to concur with my own limited observations. We have never had so universal a favorite for fodder in our barn with horses and cattle as the Hungarian grass, green or dry; they seem to prefer it to any other kind of hay. I am of the mind of your correspondent who said, "I never will sow any more oats for fodder." I have harvested as good English hay as grows anywhere, if not so much to the acre, but all our graminivorous animals give their votes for the Hungarian grass. The cultivation of the Hungarian grass being comparatively a new thing among us, I give out the few practical results of my limited experience in a report which may be instrumental in distributing a few sparks of light among farmers less experienced than myself. The introduction of Hungarian grass will make a very valuable addition to the varieties of fodder now in use for stock, it is a kind of grass which will be of first importance to farmers who occupy the sandy plains throughout the country; great crops of it can be raised on light and warm soil where it would be difficult to obtain moderate crops of other kinds of grasses.

SILAS BROWN.

North Wilmington, Sept., 1862.

For the New England Farmer.

SUPERIOR KINDS OF APPLES.

There are, doubtless, many first-rate varieties of the apple which have originated in this region that have never been propagated by budding or grafting, and are scarcely known beyond the farm where they sprung up. These should be submitted to fruit committees, and others, who are well qualified to judge of their merits, and such as are found to be first-rate in all respects should be added to the list for general cultivation. There are many second and third class kinds, now grown to some extent, which might be rejected with propriety, and their places supplied with the best of these varieties. Some of the best old kinds sometimes change and degenerate after cultivating for a long series of years, and we must obtain something among the new, equal, if not superior, to fill their places. Exhibitions of fruit at cattle and horticultural shows afford a good opportunity for bringing these new kinds into public notice. Within a few years, I have sent several varieties to an eminent pomologist, who expressed a very favorable opinion of them. O. V. HILLS.

Leominster, Sept., 1862.

TO ONE GALLON of soft water add a pint of sugar or sorghum molasses, stir all well, and then add nearly a gallon of fresh ripe tomatoes. Set the vessel aside, and in a few days you will have the sourest pickles you ever tasted, and the best vinegar.—*Exchange.*

AGRICULTURAL EXHIBITIONS.

MIDDLESEX SOUTH AGRICULTURAL SOCIETY FAIR.

The annual exhibition of the Middlesex South Agricultural Society was held on the Fair Grounds at Framingham, and was one of the largest and finest that has occurred for many years.

The display of fruit was uncommonly large and fine, comprising 729 different parcels. The chief contributors were George W. Goodenough, of Southboro', 40 varieties of apples and 15 of pears; W. G. Lewis, 26 varieties of pears, 17 of apples; H. G. White, 15 of each; Liberty Chadwick, 20 of apples; Oliver Bennet, 12 varieties of hothouse grapes and 10 of native; James W. Clark, 35 varieties of grapes. R. A. French exhibited a large plate of apples of the Gloria Mundi variety, weighing from 8 to 20¾ ounces each; and N. F. Clark, of Sherborn, a fine basket of assorted fruit.

The principal exhibitors of vegetables were H. G. White, 39 varieties; W. G. Lewis, 40 do.; Liberty Chadwick, 95; C. J. Powers, 34; Isaac Osgood, Hopkinton, 115. Mr. Lewis exhibited some German sweet turnips, raised from seed obtained at the Patent Office three years ago. They averaged 14½ pounds each when about half-grown. Thirty-seven tons to the acre have been harvested. He also exhibited a new and remarkable variety of yellow corn, that ripens before the frost, however early it may come. Mr. White exhibited nine new varieties of seedling potatoes, the only ones considered worth retaining of 1700 varieties started by Goodrich, of New York. The displays of flowers, bread, preserved fruits, &c., were very fine.

The ladies proved themselves superior in needle practice, and their display of crotchet work, quilts, knitting, plain and fancy sewing, &c., was very creditable.

The stock entries were numerous and excellent, numbering from 5 to 20 each of bulls, fat cattle, cows, heifers, yearling colts, boars, sheep, calves, &c., &c. H. G. White's stock of short-horns are extensively known, and were recently the subject of an elaborate article in the *Country Gentleman*. H. H. Peters and W. G. Lewis exhibited several Aryshires, William Buckminster, his celebrated Devons, and F. A. Billings, his Alderneys. Of swine, Mr. White exhibited specimens of the Chester county breed, and sheep of the Cotswold variety. There were several Morgan and Messenger colts, and the usual variety of fowls.

BRISTOL COUNTY CENTRAL AGRICULTURAL SOCIETY CATTLE SHOW AND FAIR.

The annual exhibition of this new Society was held on Wednesday, Thursday and Friday. The weather was delightful, the attendance large, and the exhibition a great success.

The subjects of special interest on the first day

were the plowing-match, the show of town teams, with all the neat stock on the track,—the drawing-match, the trial of walking horses and pacing horses. Everything passed off well, and the attendance was good. The show of poultry and swine was large. The exhibition of sheep was fair for the present era of sheep husbandry. Among the stock there were some fine pairs of oxen, both working and fat cattle. A fine grade bull of the short-horn type was exhibited by the President of the Society, with other of his stock which was fine, including a pair of steer calves, about seven months old, that weigh a little short of 900 lbs.

On Thursday, the first exercise was that of the spading-match. There were five entries. This was a spirited exhibition, and attracted considerable interest. Following this, the foot-race came off, and was quite exciting. There were three that ran round the half-mile course—time 2.32 and 2.40. The third got out of wind before he came round.

The dedicatory exercises of the new Hall on the Fair Grounds came off in the afternoon of Thursday. Dr. Durfee, the President, made a brief address and introduced Leander Wetherell, of Boston, elected to deliver the dedicatory address. His subject was "Experimental Farming," and he was attentively listened to by a large audience. Prayer was offered by Rev. Mr. McDonald, of New Bedford. Music by the Bridgewater Cornet Band.

On Thursday evening there was a war meeting at the Hall, addressed by Mr. Westall and Dr. Hooper, of Fall River, Mr. Wetherell, of Boston, and others.

On Friday morning, the old board of officers was principally re-elected. The trial of working and trotting horses came off, and attracted a large crowd. The attendance during the three days was large.

The dinner was served in the Hall at 1, P. M., about 400 partaking of it. Reports were read after dinner by the Chairmen of Committees, and interspersed with speeches by the President, Jacob Dean, of Mansfield, L. Wetherell, of Boston, Dr. Hooper, of Fall River, Maj. Phinney, of the Barnstable *Patriot*, and others. The Fair closed with a sale of fruit by auction for the aid of the Society.

This, though the youngest Society in the State, is one of the most enterprising, vigorous and successful, even though deprived of the State bounty, and of a representation in the State Board of Agriculture.

This Society has purchased a farm at Myrick's Station, on the Old Colony Railway, and enclosed 45 acres of the same for the cattle show and fair, and they have erected suitable buildings thereon.

NORFOLK COUNTY AGRICULTURAL EXHIBITION.

The fourteenth yearly display of this Society was held on the Society's grounds at Dedham. The weather was beautiful, and the attendance, though not as large as upon some former occasions was very good, considering the state of the country. The show of horses and cattle was not as large, but was considered by many as more choice than upon any former occasion. Mr. W. T. G. Morton, of Needham, had a fine collection of Jersey and Aryshire stock. Mr. A. S. Drake had some beautiful cattle—and A. W. Austin, of West Roxbury, exhibited his curious Kerry stock.

The plowing match took place at 2 o'clock, and was one of the best that has marked the Society's history. The drivers seemed to have taken a lesson from the patient beasts they drove, and went about their work with a quietness and calm method which excited general applause, and of course produced the desired result—most excellent plowing. Eleven teams engaged in the match.

The show of fruit was not large, but was very fine. The President of the Society, Hon. Marshall P. Wilder, as usual, was on hand with a fine display of pears, including 125 varieties. Mr. F. Clapp, of Dorchester, also exhibited fine apples, pears and peaches, while the show of out-door and hot-house grapes by Mr. Geo. Davenport, C. B. Shaw and J. W. Clark, of Dedham, was very fine.

The display of barn-yard fowls, both staple and fancy, was quite large.

The second day's proceedings commenced with the spading match, to which there were five entries.

After this came the cavalcade. This consisted of all the horses entered for premiums, and was formed under the leadership of Sheriff J. W. Thomas, and, led by Gilmore's Band, proceeded around the track, the line reaching nearly half a mile. There were but few particularly fine looking horses in the cavalcade, and the committee consequently withheld a large portion of the premiums offered by the Society. After the procession had passed around the track, the horses in the different classes were put through their paces before the committee.

After this came the dinner, and address by Hon. B. F. Thomas. Mr. Thomas commenced by referring to farming from the commencement of the world, when Cain went out from the presence of the Lord, and asked how many young men in our day leave the quiet of a country life, to go into the market-place and the forum, thus going out from the presence of the Lord. The exchange and the forum have many rich prizes; but in seeking these, who can gather up the golden hopes that are lost in the strife with the world? He thought there were no shares in bank or manufactory that paid better than the plowshare; for ag-

riculture, aided by science, yields enough for any man's desires. We have begun to find that there is no place for the rich man in the kingdom of rest and peace. He then particularly spoke of the visible result of agricultural labor, and said this was not only palpable, but comparatively certain. He thought the thirst for political distinction had been one of the greatest curses of the farmer. He dwelt at some length on the aid God gave the farmer, and the importance of taking advantage of this, and closed a fine address by appropriate quotations from the Proverbs of Solomon.

A very well written poem for the occasion was then read by the author, Francis P. Denney, Esq., which was loudly applauded, when brief responses to sentiments were made by Rev. Dr. Thompson, Judge Thomas, E. L. Pierce, Esq., of Milton, and a humorous report of the Committee on Swine was read by Capt. J. S. Sleeper, of Roxbury.

BROOKLYN HORTICULTURAL SOCIETY.

The number of the *Horticulturist* for September is before us, as fair and attractive as usual. It has excellent articles upon several interesting topics. In its account of the Brooklyn Horticultural Society it gives part of a report of Dr. TRIMBLE'S address on insects injurious to city trees, from which we make the following extracts:

THE ICHNEUMON.—The Ichneumon animal eats the eggs of the crocodile, to some extent controlling its numbers.

The cuckoo in England and the cow bunting in this country, lay their eggs in the nests of other birds, and the young are nurtured by foster mothers; and it is said these parasite intruders have the instinct to throw the rightful possessors out of their nests. By such a process these foster parents would be lessened the next year—a law that would react upon the parasites in the future; and we see that none of these birds become numerous. The ichneumon insect is a four-winged fly, and an immensely numerous class, of all sizes and exceedingly irregular and eccentric in shape. *They are the great regulators of insect life.*

The female deposits her eggs in, and the young feed upon, the living bodies of other insects.

It is the fatal enemy of many other insects; flies in their larva state, and even the eggs of some insects, are destroyed by them, but the caterpillars are the great sufferers. You may often see feeble looking ones, studded over the back with little protuberances; these are the cocoons of the parasite grubs that have fed to maturity upon the flesh of the poor worm, and leaving just vitality enough to last as long as it is necessary for them that they should live. These little creatures, when full grown, issue from the substance of the poor caterpillar, spin their cocoons and attach them by silken cords to their miserable victims. (Here the Doctor showed a specimen with eighty cocoons attached, and from which he had collected the flies.)

Many insects prey upon each other; sometimes diseases diminish them; birds destroy incredible numbers; toads eat them: frogs and fish consume vast numbers of the larva of the submarine varieties; but such is the incredible rate of increase, that many kinds would overrun us, but for the wonderful check of this parasite class. The newspapers often report fearful numbers of some new insect, and forebode dreadful consequences. Such insects are troublesome for a short time, and then disappear. Some observe a periodicity, as the Locust, the Chaffers and Ephemeræ, but most of them are checked by the Ichneumon.

I have seen the stems of grapes cut off in great numbers by a caterpillar, and I attempted to see what butterfly it would come to, but I got only large, fierce looking Ichneumon flies, two from each.

Our pine forests are saved from serious injury, and the lumber from damage, by the friendly interference of an Ichneumon insect that stings the borer, while just under the bark, during the period of its transformation.

I once knew an eccentric person make a calculation, that the undisturbed increase of a single herring would, in twenty years, more than equal the solid earth, and he became nervous with the idea that we were all to become herrings. He forgot that in addition to the hundreds of enemies that prey upon these fish, besides ourselves, that the cachelot whale feeds upon them, and takes in 2,000 at a single mouthful. No. *Nothing here is allowed to take exclusive possession.* Of the hundreds of thousands of varieties of insects, none become extinct, and none are permitted to preponderate to a dangerous degree for any length of time.

When meteors and comets jostle the planets out of their places, and the heavenly system becomes disturbed, it will be time enough to anticipate that God has forgotten to regulate the insect world.

GIRDLED TREES.

Mice often produce sad havoc in young orchards and nurseries by gnawing the trunks near the surface of the ground, and not unfrequently for a considerable distance above it. This may often be prevented by compressing the first snows that fall about them, by stamping and keeping them as hard as possible until spring. If, however, from neglect or any other cause, trees do get injured in this way, watch the opportunity, and as soon as the frost leaves the surface, bank them up with soil to the extent of the injury, and allow the same to remain till the subsequent year. A new deposition of granulated matter will thus be induced, and this becoming in due time liquified, the surface will appear nearly as smooth as before it was injured. It will be well, however, before banking up to dig the soil thoroughly, if the frost will admit, and to the extent of the lateral limbs, and work in a liberal quantity of old, fine manure, mixed with a little ground bone, ashes or plaster to each tree. This will stimulate action, and cause a more rapid and abundant deposition of granular substance to heal and conceal the wound, and be otherwise beneficial to the tree. Those

who have gum shellac dissolved will do well to brush the gnawed places over with that before banking up. Many valuable trees may be saved by this process—but perhaps not all. If gnawed places are found in the winter, or early spring, they should be kept covered with snow, or wrapt up at once to prevent their becoming dry and hard. Very much will depend upon this. If girdled entirely around the tree, scions must be inserted in order to keep up the circulation. We have some interesting facts to communicate on this subject.

MINNESOTA.

We have before us a well-printed pamphlet of 126 pages, with the following title:—"MINNESOTA: Its Progress and Capabilities. Being the Second Annual Report of the Commissioner of Statistics for the years 1860 and 1861. And containing an abstract of the U. S. Census." The mechanical execution of the work reflects credit upon Mr. WM. R. MARSHALL, the State printer at St. Paul.

In a speech made by Mr. SEWARD, at St. Paul, a year or two since, he said,—"Here is the place, the central place, where the Agriculture of the richest region of North America must pour out its tributes to the whole world." We have been greatly interested in looking over the pages of this work, and as much surprised as pleased at the wonderful resources and developments of this *new world*. Mr. J. A. WHEELOCK, the Commissioner of Statistics, has embodied such a budget of facts and intelligent observations upon them as is seldom met with. The country seems to be rich in all the elements essential to a rapid growth in population and almost unbounded wealth—in minerals, timber of various kinds, in the cereal grains, in rich native grasses, in abundant water privileges and communications with the rest of the world, and in a climate highly favorable to health and the production of the great staples for sustaining human and animal life.

The following facts are collated from the official statistics of Minnesota:

Rapid as has been the growth of the new Western States, Minnesota has surpassed them all in the rapidity of its progress. Its population in 1850 was 5,330; in 1860, 172,022. Its agricultural development has been even more remarkable.

The number of acres of plowed land in 1850 was 1,900; in 1854, 15,000; in 1860, 433,267—having increased nearly thirty fold in six years.

The number of bushels of wheat produced in 1850 was 1,401; in 1854, 7,000; in 1860, 5,001,432 bushels, being nearly thirty bushels to each inhabitant, or four times as much as the whole wheat crop of New England in 1850.

The whole amount of grain and potatoes produced in Minnesota in 1850 was 71,709 bushels; in 1860 it was 14,693,517 bushels—mostly in the small grains. What a progress for ten years!

This rapid agricultural growth has been achieved chiefly since the collapse of land speculation in 1857. In 1858 Minnesota imported bread and provisions. In 1861 she exported 3,000,000 bushels of wheat alone.

Minnesota is probably *the best wheat State in the Union*, with the exception of California, and perhaps Wisconsin. The statistics of her wheat crop show an average yield in 1860 of twenty-two bushels per acre, and in 1859 of nineteen bushels—these results being from fifty to three hundred per cent. greater than that of the principal wheat States, with the exceptions noted. In 1859, for example, the average yield of Iowa was four and one-third bushels per acre; of Ohio, seven and one-third bushels. Illinois, according to a high local authority, produces from year to year not more than eight bushels per acre, and fifteen bushels is considered an unusually large average for the best wheat States. The comparative exemption of Minnesota from the disease and insects which ravage the wheat crops of other States, gives it a great advantage in the cultivation of this most valuable staple.

Minnesota is often supposed to be too far north for corn. This is a great mistake, founded on the popular fallacy that the latitude governs climate. But climates grow warmer towards the west coasts of continents, and although its winters are cold, the summers of Minnesota are as warm as those of Southern Ohio. It may surprise some readers to know that the mean summer heat of St. Paul is precisely that of Philadelphia, five degrees further south, and that it is considerably warmer during the whole growing season than Chicago, three degrees further South. The products of the soil confirm the indications of the Army Meteorological Register. The average yield of corn in 1860 was thirty-five and two-thirds bushels per acre, and in 1859—a bad year—twenty-six bushels. By comparison, in the latter year, Iowa produced but twenty-three and one-half bushels per acre, and Ohio, the Queen of the corn States, but twenty-nine bushels. In Illinois—of which corn is the chief staple—Mr. Lincoln, now President of the United States, in the course of an agricultural address in 1859, stated that the "average crop from year to year does not exceed twenty bushels per acre."

HENS EATING EGGS.—A writer in the London *Field* says that hens eating their eggs is often owing to the form of the nest, and suggests that the proper form is that of a plate, shallow, that she may not have to jump down on the eggs, and flat on the bottom, so that when she treads on them, they will roll aside, and let her feet slip easily between them. She can then pass her bill among them, as she tucks them under her, and shuffle them together with her wings without hurting them. If, on the contrary, the nest is made in the form of a basin, the eggs press against each other, and are liable to be crushed by her efforts to push her feet between them, or to alter their position with her beak or wings. When an egg is broken, most hens will eat it, and, as hatching time approaches, the eggs become more brittle; and in a deep or badly-formed nest, the chicks are very apt to be crushed and killed between the other eggs, by the movements of the hen.

For the New England Farmer.

OBSERVATIONS ON DRAINAGE.

BY JUDGE FRENCH.

Since my treatise on Farm Drainage was published, three years ago, I have carefully watched all the drainage operations that have come within my sphere of observation, as well as the published statements in the agricultural journals, and especially in the Transactions of Societies, and no single instance has come to my knowledge, where even a tolerably well conducted experiment in drainage has proved unsatisfactory to the proprietor. Indeed, the fact, that almost any poorly conceived, and half-executed plan of drainage, produces such wonderful results, is an obstacle in the way of the most thorough and permanent, and in the end, economical execution of the work. A farmer, who has run a few open two-foot ditches through his meadow, triumphantly points out to you the perfect realization of his idea of successful drainage, and another, who has filled a like ditch two-thirds full of roadside stones, and covered it with shavings and soil, exhibits his field as a new evidence of the importance of underdraining. All this is well, if the same labor and expense would not have done the work better. Any drainage, like any plowing or any manuring for a crop, is better than none at all, but let us keep the standard at its proper height, and work as nearly up to it as practicable, and let no man flatter himself that anything less than tile drains four feet deep is really the best drainage. Stone drains are just as good as tiles, if they can be kept open, but unless very deep, so as to be below frost and the operations of moles and mice, they are likely to be obstructed, and when once obstructed, cannot be repaired.

THE OBJECTS OF DRAINAGE

may be briefly stated thus: 1. To remove stagnant water; which is, for some reason not easily defined, poisonous and destructive to all valuable grasses and cultivated crops. 2. To deepen the soil, and so afford to the roots of plants a larger pasture or feeding ground. 3. To promote pulverization of the soil, so as to allow the roots to traverse far and wide and to find their appropriate nourishment in its proper condition. 4. To prevent surface washing; by allowing rain and snow water to pass through, and not over the soil. 5. To prevent freezing out of grass, grain, and even shrubs and trees; by allowing the water to pass quickly down, instead of freezing near the surface and expanding by crystallization, and so tearing the roots from the soil. 6. To lengthen the season for labor and for vegetation; making what was before a late soil in spring, the earliest for working, and giving all the autumn, till the ground freezes, for fall tillage or improvement. 7. To save, on moist land, twenty-five per cent. of the labor of cultivating; heavy soils being rendered by thorough drainage, almost as easy of cultivation as naturally light land. 8. To promote the absorption of fertilizing substances from the air; and so to get your share of the exhalations from your neighbors' manure heaps, as well as from the swamps and cities. 9. To supply to the roots of plants, air; which is necessary to their very life, and which must follow the rain water as it descends towards the drains. 10. To warm the soil, which can never be warmed while filled with water. Heat cannot be propagated downward in water. No degree of heat applied to the surface of a vessel of water, can warm it at the bottom. Heat passes through water by the circulation of its heated particles, which, being made lighter by heat, always go upward. The only way to warm the soil in the spring, is by allowing the snow water to pass down and warm water or air to take its place. A rain storm of boiling water on soil saturated with cold water, could not perceptibly warm it three inches below the surface. 11. To render the soil more moist in times of drought; a pulverized soil holding, by attraction, much more water than a lumpy or compact soil, as is readily proved by the fact, that water may be squeezed from a moist, light soil, as from a sponge, even by hand pressure. 12. To prevent injury by drought, also, by causing the roots to strike far deeper in early spring, than they can do in wet soil, thus giving them an equal moisture throughout the season, instead of floods in spring, which prevent expansion of roots, followed by a lowering of the water-table beyond their reach.

These advantages of drainage are all real and intelligible, and may be greater or less, according as the particular field under consideration may be more or less moist. It may be added, that all fruit-growers and nursery-men seem to agree, that stagnant water, even in winter, is very injurious, and that standing even in that season with their feet in cold water is destructive to fruit trees.

WHY TILES ARE BEST.

Tiles are getting to be abundant in many parts of New England, and as there is no reason why they may not be made wherever common bricks are made, any demand for them will soon be met by a supply. Where tiles cannot be obtained at reasonable rates, it may be often expedient to use stones. There is no one advantage, that a stone drain possesses over a tile drain, and no reason can be given for using stone, except economy, which is a point presently to be considered.

Tile drains are better than stone. 1st, Because they are more permanent and reliable. No mole or mouse, or insect large enough to do any harm, can enter a tile drain properly laid and secured. A

stone drain cannot be laid without cement, or hammered stone, so that moles and mice, snakes and other *vermin*, as the English call such creatures, cannot enter, and they all, at once, establish communication between the drain and surface. When such tiles are opened, the water runs in from the top, carrying soil and sand, and the drain is filled up and ruined, and it is often more work to take it up and relay it, than to lay a new one.

Tiles, it is true, are liable to obstruction. Sand may find its way into them, even through the very small cracks at their junction, and fill them entirely. Frogs and moles may enter at an ill-secured outlet, or a soft or cracked tile may fail, but these obstructions are very rare, and very easily removed.

The water will show itself above the obstruction, and by thrusting down a crowbar along the line of the drain, it is easy to ascertain, by the rising of the water in the hole, where the obstacle begins. Then it is very little labor to dig down to the tiles, and take them up, so far as they are filled, and replace them after cleaning. Usually these obstructions extend but a short distance, and as there is nothing to be carried away or brought upon the field, except perhaps a single tile, the soil and even the sod may be replaced without injury.

2. Tiles are cheaper even at $15 per 1000, than stones lying on the field. This is a matter of calculation, not of mere opinion. The saving in tile drains is in the cost of excavation mainly. The English workmen open four-foot drains, with a mean, or average width of 10½ inches. We will call it 14 inches, and the cost a third of a dollar per rod for digging and filling. The tiles at $15 per 1000, cost 25 cents per rod, making the cost of the drain 58⅓ cents.

Now a stone drain must be nearly double this width, but we will call it only 21 inches, making the digging and filling cost, at the same rate, 50 cents. The ditch will require two ox-cart loads of stone, and saying nothing of the picking and hauling, it is worth 25 cents per rod to lay them in place, which makes the labor 75 cents per rod, saying nothing of two cart-loads of surplus earth to be hauled away.

In other words, this, I think, is true, that the labor of constructing stone drains will cost more than the labor and tiles for tile drains.

DEPTH AND DISTANCE.

I advise laying drains as deep as four feet, not only because they drain the soil better, but because they are more permanent, than when more shallow. At that depth, the soil is little affected by vermin, or by the tread of cattle, or by the plow, or by frost, and holes are not likely to be broken through from the surface, to admit water and earth. I advise the use of two-inch tiles as the minimum, not because a smaller bore would not carry the water, but because it would be more easily obstructed. The distance must depend on the depth in part, and in part upon the nature of the soil. I have never yet seen a failure in drainage, from drains at proper depth, too far apart. From 30 to 60 feet may perhaps be given as extremes, in New England, where we have little close clay. In England, tough clays are sometimes drained as close as 16 feet.

ENGINEERS.

Drainage is expensive, and mistakes are too costly for the farmer. A day's labor of a competent engineer will often save five times the cost. No man can, by the eye, properly estimate the fall in even a single acre, and a practiced hand can lay out work far better than any unpracticed farmer. The first step must always be to lay out the work, and although I have had much practice myself, I should not dare to attempt any extensive drainage even on a five-acre field, without an engineer with his levelling instruments.

The autumn is a leisure and convenient time for these operations, the only objection being that there may be too much water before the tiles are in, but we have usually many weeks after the middle of September for field operations. The subject is of great importance on all the old and valuable fields of New England, where there is too much moisture at any season.

For the New England Farmer.

AGRICULTURE IN OUR COMMON SCHOOLS.

Mr. Editor:—I read the communication from Mr. Goldsbury upon the above subject, when the *Farmer* of July 12 was received, and have perused it with more care and attention since reading the "strictures" upon it which appeared in your paper of August 30.

The clear and comprehensive manner in which Mr. G. treated the subject under consideration, I think did not indicate that his "usual good judgment" was "asleep," but that he was in the full possession of all his faculties, though other persons may entertain a different opinion. It seems to me his objections are sound and sensible, and show that the writer understands the object for which our common schools are designed, is well acquainted with their condition, either by experience or from observation, and knows their wants and failings.

If I am not mistaken, there is a general feeling in the community, that for some years past, too many studies have been introduced into our common schools, to be learned thoroughly, while some of the fundamental branches, such as reading, spelling and writing, are so much neglected, that comparatively few boys and girls who arrive at years of maturity can be called really good readers and writers, at least so far as correct spelling and composition are concerned.

In such schools as the State establishment at Westboro', and others of a similar character, agriculture of course can be taught *practically*, but our common schools in the summer season, as is well known, are under the care of female teachers, and in the winter no practical application could be made of any principle connected with farming, except perhaps in some places the older boys might *practice* preparing green wood for the fire, as "Jonas" did when the famous "Memorious" was sent out to spell him."

"More Anon" says it is implied or understood throughout the remarks of Mr. G. that if agriculture is introduced into our schools as a study, *all* the scholars would be obliged to attend to it. I find nothing in any of the objections to justify such a conclusion. But perhaps my *perceptive* faculties may be slightly impaired. A. C. W.

Leominster, Sept., 1862.

For the New England Farmer.

"AGRICULTURE IN COMMON SCHOOLS."

Ever since the publication of *The Progressive Farmer*, by Prof. J. A. NASH, in 1853, the question as to the expediency or probable utility of introducing agriculture as a study into our common schools has occupied the attention of the writer, and doubtless of many others, every now and then. In his preface to that excellent little manual, in which the more important facts and truths of agricultural chemistry and geology, and of what is known in regard to the plants and animals, the soils and manures, with which the farmer has to do, are very plainly and clearly stated, and made available for practical application to every-day operations on the farm, Mr. Nash informed the public that his work was the result of an effort to render science—that is, well-established and systematic knowledge—available to practical farmers, to young men desirous of qualifying themselves for so useful an employment, *and especially to the more advanced classes in our public schools.* This announcement of his intention to have his book used in public schools, in connection with a trial of a portion of it in our own fireside instruction, first started in our mind the question as to the expediency, benefits, or utility of having it regarded by teachers and parents as one of the studies which might be attended to by those who wished it, in our common schools.

In a few months after the publication of the above-named work, and while engaged in using it as a text-book for instruction at the fireside, the new edition of Johnston's "Elements of Agricultural Chemistry and Geology," by the editor of this journal, made its appearance, and was found by the writer to be a most admirable aid in making the study of Mr. Nash's manual at once more interesting and more instructive. By the help of the *very copious* index attached to that edition, it was very easy for either the student or instructor to turn at once to the pages in which might be found the remarkably lucid, practical and interesting statements and illustrations of Prof. Johnston, in regard to any subject treated of in our text-book. And so very plain and interesting to the student was this book found to be, that it has seemed there could scarcely be a better one for the study of the more advanced classes, if it were as well fitted for the purpose of recitation, or for use as a text-book, by appending to it a catechism or set of questions, as it now is for ready reference by its very copious and really useful index. So useful, however, did the writer find this book, and so well adapted to interest as well as to instruct one young mind, that it served to bring up afresh the subject of the expediency of introducing *some* branches of agricultural science as a study, for those who might choose it, or whose parents might choose it, in our public schools.

So great had thus gradually become my interest in this question, and so great my desire that a text-book *more exactly* adapted to the capacities of the young might make its appearance, that I was at once induced to procure and examine, with this object in view, the "Rural Handbooks," prepared and published by Fowler & Wells in 1858. These I found better adapted for study and reference by young farmers, and those who had never made themselves acquainted with the *principles* of farm operations, than for youth at the age they usually attend school. Still it seemed that a very good text-book for the more advanced pupils—say in the last year of their attendance at school—might be prepared, by re-writing, with this special end in view, two of these hand-books, viz.: "The Farm" and "The Garden."

Again, when in 1861 it was announced that a manual of agriculture for the use of schools was in preparation, and when soon afterwards it was given to the public with the sanction and approval of the State Board of Agriculture of Massachusetts, —a State which has always taken the lead and held the foremost place in all educational concerns —I hoped that the expediency of such a study in schools was now generally felt and acknowledged, and felt persuaded that a text-book as good as we were likely to have for many years, was now within the reach of all who were independent and progressive enough to venture upon the innovation. And although it seems to me that this "*Manual of Agriculture*," by Emerson & Flint, might have been more likely to *interest* the young, had illustrations from orchard and garden-culture,—with which *all* children are more familiar than with operations on the farm,—been more frequent, still I think any teacher of intelligence, and *ambitious to do his very best*, might, with this manual as a text-book, and by consulting the agricultural books and papers which he could scarcely fail to find in any school district in which there were parents intelligent and progressive enough to furnish a class for such a study, extemporize illustrations from the things with which all children are more or less familiarly acquainted, so as to make the teachings of this text-book both more interesting and more likely to be remembered, as well as ready for practical application. Indeed, wherever there are parents intelligent enough to appreciate the truth, so pithily expressed by Milton, namely, that

> "To know that which before us lies in daily life
> Is the prime wisdom,"

and sufficiently judicious and energetic to regulate the education of their children by that and other cognate truths, so that their employments during their school life shall be the best possible preparation for their employments in after life; wherever there are in any school district such parents having children enough among them of the proper

age to form a class of sufficient size, and they shall consult together and combine for the purpose, there seems *now* to be nothing in the way to hinder the expediency of this new branch and study in schools being put to the test of experiment, save only to secure a teacher of ordinary intelligence, and possessing ambition to do his very best for the interest of his pupils and his employers. And with such parents, and such a teacher, (no more than all teachers are in duty bound to be,) and such a text-book, and such aids as have been referred to as available for the assistance of the teacher, it seems as if the experiment could nowise fail of proving a most gratifying success.

Surely, such parents as I have described will not allow themselves to be deterred for more than a few minutes by any such objections as those which have been submitted by Mr. Goldsbury in the issue of this journal for July 12th, and in the August No. of the monthly edition. The statements which appeared to him, doubtless, to be arguments of great force and validity, have been shown to be nothing more than unproved *assumptions* and erroneous assertions, in the *Farmer* of August 30th. It was there shown, in opposition to one of the assumptions of Mr. G., that there is no *good reason* for any such limitation of school studies as he insists upon, that with scarcely an exception, any study may occupy the time of children during their school life, which may serve to develop and invigorate, or discipline the mental faculties, and also to furnish the mind with stores of knowledge likely to be useful in the general business of adult life. This being the principle or rule by which the appropriateness and value of any study are to be tested, what could justly be ranked more highly than a study so intimately related to the life-business pursuits of a large majority of the American people? There are, certainly, several of the studies to which Mr. G. would limit youth in our common schools, which are of small value, and are likely to yield results of little importance, when put into comparison with the knowledge of "that which before us lies in daily life," and which the study of agriculture, *in all its branches*, is so well adapted to furnish to every attentive and inquiring mind.

This will appear more obviously when it is considered that agriculture in all its branches, or even as it is presented in the brief "Manual" of Messrs. Emerson & Flint, leads the student to a knowledge of the more practical and important portions of the sciences of meteorology, climatology, chemistry, botany and vegetable physiology, geology, zoology, entomology, &c., and to a knowledge, also, of whatever comes under the usual appellation of gardening, orcharding, husbandry, rural economy, domestic economy, &c., &c. If, then, the *best use* of schools is to prepare the young for the duties, offices and employments of adult life, what could be named as a more appropriate school study than that which leads to a knowledge of these most common, most important things?

Again, it was shown in the *Farmer* of August 30th, that it is assumed or implied, in all the objections urged by Mr. G., that the study of agriculture, if introduced into schools, would be obligatory upon all. On the contrary, it must be manifest to all not blinded by biasing influences of some kind, that it would be a study perfectly elective, like algebra and several others, and that it would be chosen only by or for the more advanced pupils. But we must not repeat what has already been said on this matter; but refer the reader to the article above referred to. All who read carefully and candidly that article replying to the objections of Mr. G., will see that if the study he objects to is to be, and to be universally considered, an elective one, not at all obligatory upon any one, then all his objections are void and of no force whatever.

To this refutation of the objections of Mr. G., in the *Farmer* of August 30th, he has not yet seen fit to reply. True, he has written a notice of the article in the *Farmer* of August 30th, which is printed in the issue for September 20th. But this notice of his consists only of certain utterances of a resentful nature, as if greatly offended by having his opinions called in question; and as the public care little about the bickerings of disputants who tread on each other's tender toes, I leave all Mr. G.'s personalities and accusations without reply, and would only remind him that the public care only about the *points at issue* between us, and not whether we wound each other's self-esteem, or otherwise. We wait Mr. G.'s reply.

MORE ANON.

THE CATTLE MARKETS.

The close of the first year of the services of our present reporter seems to be an appropriate occasion for a review of some of the facts which are embodied in his weekly reports.

According to his figures, the number of live stock at market during the year ending September 30, 1862, is as follows:

Cattle of all kinds	90,153
Sheep and lambs	208,592
Shotes and pigs	46,080
Fat hogs	44,790
Veal calves	8,000

The following table shows the numbers of cattle and sheep from the "North," and the number from the "West," arranged by Quarters, with the average number of each per week. The Northern or Eastern includes those from the New England States, the northern part of New York and Canada, and the Western, those purchased in Albany, and those that come direct from the Western States.

	CATTLE.			SHEEP.		
Quarter Ending	*North.*	*West.*	*Total.*	*North.*	*West.*	*Total*
Dec. 31, 1861,	23,835	6,980	30,815	51,048	4,142	55,190
Mar. 31, 1862,	8,834	7,228	16,062	24,146	13,755	34,901
June 30, "	5,094	11,039	16,133	32,673	2,124	34,797
Sept. 30, "	15,418	11,725	27,143	81,290	2,414	83,704
Total for year,	53,181	36,972	90,153	186,157	22,435	208,592
Aver. per week,	1,023	711	1,734	3,580	431	4,011

For the purpose of arriving at some conclusion as to the value of the stock sold at this market for the year past, we assume the sales of Northern and Eastern cattle, large and small, to average $35 per head, and the Western $60 per head; Northern or Eastern sheep and lambs, $3,62, and Western $4,25 each; shotes and pigs $4, fat hogs $8, and calves $4,50 each, and multiply accordingly. The following result is offered as an ap-

proximation to the total value of live stock sold at this market during the past year:

	North.	West.	Total.
Cattle	$1,861,335 00	$2,218,320 00	$4,079,655 00
Sheep	673,888 34	95,348 75	769,237 09
Shotes and pigs	———	184,320 00	184,320 00
Fat hogs	———	358,320 00	358,320 00
Veal calves	36,000 00	———	36,000 00
	$2,571,223 34	$2,856,308 75	$5,427,532 09

An average of $104,289 per week, the year round.

Prices for beef cattle have been, we think, remarkably uniform during the year past. The range of our weekly quotations has been from $3,75 *a* 6,25 to $5,75 *a* 7,25. And this, it should be stated, represents the variation in quality as well as price.

During October, November and December, the highest quotation was $6,50 for nine weeks, and $6,25 for four weeks.

During January, February and March, the highest quotation was $7 for three weeks, $6,75 for seven, $6,50 for two, and $6,25 for one week.

During April, May and June, the highest quotation was $7,25 for one week, $7 for nine weeks, and $6,75 for three weeks.

During July, August and September, the highest quotation was $7 for one week, $6,75 for seven weeks, and $6,50 for five weeks.

Sheep have sold higher than usual this year. During the first quarter, sheep and lambs were sold in lots or flocks, by the head at from $1,75 to 4,00. During the second quarter, they were sold mostly by the live weight at from 4½ to 6c per lb. During the second and third quarters, at from 3 to 6c per lb., many being clipped.

Stock at Market,

TEN, TWENTY AND THIRTY YEARS AGO.

The following table shows the number of Cattle, Sheep and Swine reported at market the first week in October, 1862, 1852, 1842 and 1832.

	Oct. 3, 1862.	*Oct.* 7, 1852.	*Oct.* 3, 1842.	*Oct.* 1, 1832.
Cattle	2,809	3,820	1,680	1,905
Sheep	8,557	12,500	450	4,000
Swine	2,550	3,100	1,550	610

Prices,

TEN, TWENTY AND THIRTY YEARS AGO.

	Oct. 3, 1862.	*Oct.* 7, 1852.	*Oct.* 3, 1842.	*Oct.* 1, 1832.
Beef, extra	$6,50@6,75	$6,25@6,50	A few at $5	$5,25@5,50
" 1st qual.	6,00@6,25	5,50@6,00	$4,50@4,75	4,84@5,17
" 2d "	5,25@5,75	4,75@5,25	3,75@4,25	4,25@4,50
" 3d "	3,75@5,00	4,00@4,50	3,00@3,50	3,50@4,00
Wk. oxen, pr.	$50@120	$53@92	Not quoted.	Not quoted.
Cows & calves.	20@50	20@39	Not quoted.	$15@28
Sheep & lambs.	2,50@3,75	1,88@3,50	62@2,00	1,33@3,00
Swine, stores	3c@5¼	6c@6¾	2¼c@3½	4c@4½

These facts are gleaned from the reports of Brighton market which have been published in the *Daily Advertiser*, and its predecessor, the *Daily Patriot*, for a little over thirty-two years, previous to which it seems that farmers and drovers in the interior depended for their information as to the state of the market on mere rumors, private letters, or an occasional notice in the newspapers, like those so often seen in relation to crops in the West or elsewhere, written sometimes, perhaps, by an interested party.

Of these occasional statements or reports, the following, which we find among the items of news in the old *New England Farmer*, of February 9, 1827, will serve as a specimen:

"The number of cattle at Brighton on Monday of last week was about 600. Many of them were sold at from $3,50 to $4,00 per hundred, a few went from $4,50 to $5,00, and a very fine pair of oxen from Hatfield brought $5,25. For several weeks past about twice as many cattle have been driven to Brighton as were required to supply the market. Prices will be low as long as this glut continues."

The old Boston *Daily Patriot* was the first paper to employ a regular reporter of the Brighton Cattle Market. The first of the series of weekly reports which has been continued to the present time, was printed in the commercial column of that journal, Wednesday, June 3, 1829, and is as follows:

"BRIGHTON CATTLE MARKET, MONDAY, JUNE 1.—The number of beef cattle 120; sold from $5,50 to $6,50 per cwt., all sold by 9 o'clock, A. M. The sales were fifty cents per hundred higher than any preceding week for the year past."

In a few weeks these reports assumed the form, substantially, in which they are now published, and being evidently the work of an intelligent and impartial person, they were at once, as they ever have been since, copied into the weekly papers in New England, and were much relied on by all parties interested in the market.

But as agricultural papers became common in New England, farmers began to demand a more full report of a branch of trade in which they are most directly interested. To meet this demand we have volunteered to step out of the beaten track, and instead of a stereotyped paragraph, now give a whole column to a detailed report of the great weekly Cattle Fair of New England.

We apprehend that the amount of business transacted at this market is not fully appreciated by the public. Few even of those who are dependent on it for the sale of their surplus stock, or for the purchase of their meat, have the means of knowing the amount of business weekly done here. Nor is it so easy a matter as it might seem to be, to ascertain this fact. In the first place, the markets here were not established, but they grew; and that without being cramped or fettered by the By-laws and Regulations of any Board of Overseers, and subject to no other rules than such as buyers and sellers tacitly adopt.

Many people, probably, think, of the opening of

a market as they do of the opening of a store,—the "goods," in either case, being previously arranged in order for the reception of customers.

But this is quite incorrect. Dealers in stock at this market do not wait for the "clerk" to open the gates, nor even for the cattle to be yarded, but are always ready for the first chance to trade, whether occurring Tuesday, Wednesday or Thursday, or whether presented in the cars, at the landing-places, on the highway, or in the yards, at Medford, Cambridge or Brighton.

To watch well the market, therefore, one must needs post himself at the several steamboat wharves in Boston, at the cattle-stations on the Lowell and on the Eastern railroads, as well as at those in Cambridge and Brighton, besides keeping a look-out for droves by land; and this not for a single day only, but for the three market-days above-mentioned.

A business "opening" upon such an extent of territory, and continuing through one-half of the working-days of the week cannot of course be seen in its full proportions from a single point of observation, nor is it strange that its amount and importance should be underestimated.

From such a field are the materials which make up our weekly reports of the cattle markets gleaned; and a year's experience therein, it is believed, will enable our reporter to make his labors for the future more satisfactory to himself, and more valuable to others, than those for the past year have been.

FRUIT AS A MEDICINE.

Ripe fruit is the medicine of nature. Nothing could be more wholesome for man or child; and although green fruit, of course, almost as fatal as so much poison, the ripe is fully as thorough a health restorative and health preserver. Strawberries are favorites with all classes, and constitute a popular luxury. But who can compute the amount of general health promoted by this relish for strawberries? Who can imagine how many pills that relish throws out of the market; or, in other words, to what extent these pills prepared by mother nature, and sugar-coated, as it were, to render them more palatable, crowd out of use those prepared by the chemist and the apothecary? Who can tell the number of disordered livers, deranged stomachs, and afflicted digestive apparatus generally, the grateful acid of that delicious fruit gradually restores to a sound condition, mocking at all the skill of the ablest physician; vindicating the simple laws of Hygiea by their radical action, and teaching us how often a panacea for some of the most painful of human maladies lies directly at our feet, and is contemned because it is so unassuming?

After strawberries, we do homage especially to peaches and apples. They are the kind of drugs that cost comparatively little and do comparatively much, when the patient is not too far gone for the use of such pleasant medicaments. We knew a person once who, believing himself in a decline, and having been completely worn out in patience by the experiments of his doctors, determined to eat from four to six ripe apples every day, and note the result. In three months he was well! We know of another who, without being afflicted with any particular disorder, was never in good health, and for twenty-five years could scarcely be said to enjoy a single week's exemption from suffering. He then commenced the habit of drinking a glass of plain cider every morning, and for the next twenty-five years never had a single day's illness. Such remedies are simple enough!

For the New England Farmer.

NOTE YOUR PROGRESS---SHEEP.

The yellow leaf betokens that the close of our tilling the soil is drawing near for this season. When that period arrives, would it not be well for our brother farmers who have made note of their progress through the year, to give us the advantage of their experience, so those of us who are unlearned, can learn. In my turn through the orchard I find that those branches of the fruit trees that run up, take up most of the sap at the expense of those running downward; the latter consequently languish. I also remarked certain trees which seemed as if they possessed some knowledge, for they were careful to guard and protect their fruit, as a woman does her little children. Among the vines and gourds certain leaves had grown and arranged themselves so as to cover the fruit, lest, perchance, the cold might destroy them. The rose tree and gooseberry bushes, to defend themselves against any who might wish to strip them of their buds, had put forward defences of sharp spines. But I marveled not at the foresight of God, for He said, that even the birds have their share in His protection, and fall not without His will.

In the meadow I see the lambs frolicking and kicking, leaping and sporting, also the shorn sheep, but their inferiority in point of size to those of the time of Heredotus, the historian, leads me to think that, perhaps, they of that time might be better posted, than we of the present day, although *Vermont* boasts of her superior breeds of sheep. Raising flocks was one of the first employments that our progenitors followed, we are to infer, for it says, Gen. 4: 2, that Abel was a keeper of sheep. Of the importance of sheep, no one questions. In sacred history, as well as profane, this is duly noted (down to the present day.) In no place do I find much as to the form and size of sheep until the time of Heredotus, who speaking of the sheep of Arabia, says they have tails not less than three cubits in length, in breadth nearly a cubit! I have not the skill to tell the exact size of an animal by one part, as some have, but I am part *Yankee*, therefore I am allowed to guess; but before proceeding further, let us see what the word cubit implies. The word cubit is derived from the Latin word *Cubitus*, (the lower arm;) it used to denote the distance from the elbow to the end of the little fiuger. The length differs in various nations according to the stature of the people. The distance in men of average size is the one in use. The lesser, or common cubit, is 18 inches, the Egyptian, or which is probably the Hebrew, was 21. Now take the least, 18 inches.

Three cubits long, equal to 4½ feet, such would be an useless appendage to the sheep now extant. God in all His works, designed all for some use, therefore, we should infer by the length and breadth of those now extant, that those of former days must exceed ours in size some three or four times. Perhaps then the lineage of that highly-prized breed styled the flat-tailed sheep, might be traced to those of olden days; if so, why not, in the days of improvement which we now claim to live in, bring the breed of sheep up to the size of former days? How can our young men of this day affect to despise country places and the art of agriculture, which our old, honest ancestors and prophets themselves did not disdain to exercise, even to keeping flocks? S. V. M.

Cape Elizabeth, Sept., 1862.

A NEW KIND OF BRICK.

A correspondent of the *Journal of the Illinois State Agricultural Society* thus speaks of a new method for making brick:

The amount of lime is ten bushels of good stone lime, burnt but unslacked, to one thousand brick. The brick are plump four inches thick, six inches wide and ten inches long. By getting the cubic measure of a thousand such brick you will have the amount of material for their foundation: but little allowance is made for the lime, as it adds but trifling to the bulk. The ten bushels of lime are slacked and diluted as for mortar, and then passed into the box containing gravel and sharp sand—these are well commingled together—and then passed into a mould where the brick is subjected to a pressure of, I think, 5,000 lbs., but I am not quite certain. It is then taken out carefully and laid away to season, and must be protected a few days from heavy rains. The wall is laid ten inches thick, on a deep, firm foundation. The brick is laid edgewise in the wall, leaving a hollow space between the outside and inside courses, except where ingeniously tied by placing the brick lengthwise across the wall. The air space is designed to benefit the brick and the building. I think I could secure you, for a short season, a choice mechanic, competent to superintend, in all particulars, the introduction of this new material, and its best mode of construction, on reasonable terms. We have a number of buildings in this section of this description. I like them well, and think that for the sparsely timbered portions of your country it must be decidedly the best style of building; and so warm the bleak prairie."

To Preserve Cider.—The following recipe for preserving cider was tested last fall by a friend, and found to be all that is claimed for it: "When the cider in the barrel is in a lively fermentation, add as much white sugar as will be equal to a quarter or three-quarters of a pound to each gallon of cider, (according as the apples are sweet or sour,) let the fermentation proceed until the liquid has the taste to suit, then add a quarter of an ounce of sulphite (not sulphate) of lime to each gallon of cider, shake well and let it stand three days, and bottle for use." The sulphite should first be dissolved in a quart or so of the cider before introducing it into the barrel of cider.—*Prairie Far.*

THE CONCORD RIVER MEADOWS.

We have had recent occasion to be upon these meadows considerably, and to witness the annual destruction of property occasioned by the standing water upon them. This mischief we have no doubt is caused by the dam across the river at North Billerica, which stops the natural flow of the stream, and throws the water back over an immense tract of land that would otherwise be among the best in the State.

The river being unusually low, we went into the meadows with a gang of men and teams, and by the use of broad cart-wheels, rackets on the feet of the horses, and the wheelbarrow, succeeded in getting a few hundred loads of muck out upon higher land. Near the river the soil is alluvial, upon which corn would grow in perfection, if the land were not flooded during the growing season. Farther back, it is composed, to a very great extent, of vegetable matter in a high state of decomposition. It is black, unctuous and rich, having "the feel" of soap when rubbed between the thumb and finger, and has no appearance of being impregnated with any salts or acids that would make it unsafe to be applied immediately to the soil. Prof. Dana states that where two loads of such muck are mingled with one load of pure droppings from the cow, each of the three loads is worth as much as though all were pure droppings. Look, then, at the immense loss which our people annually sustain in being deprived of the use of such a fertilizer; for the want of which they are expending large sums of money for guano and other specific manures!

This is the first time since the memorable droughts of 1854, '55 and '56, that we have been able to remove it from its bed—and now only with difficulty, and at double the cost it would require if the water were not thrown back by dams.

On each side of these meadows, for a distance of more than twenty miles, there are large tracts of sandy lands that have been cultivated in rye for two or three generations, that might be restored to the most abundant fertility, if the people could have access to these now drowned meadows. It seems the order of nature herself, that where tracts of weak and unproductive soils are found, there are usually deposits of material in the neighborhood, either of a vegetable or mineral character, that will give such lands fertility and value. It is only for man to avail himself of them, and make the waste places smile with a cheerful and profitable vegetation, that will gladden his heart, and give strength to the State.

In this case, however, this beneficent order of things is destroyed by the rapacity of man, who seeks gain though it trample upon the plainest principles of justice, and wrings the honest reward of labor from him who has endured the pa-

tient toil. These sandy lands must remain ghastly and profitless aspects in the landscape, because those who own them are deprived of the power of dressing and keeping them by a combination of soulless and wicked corporations.

As we labored in removing these rich deposits from their native beds, we could see all around us hundreds of acres of standing grass into which a scythe had not entered, nor will enter, this season. The water has been so high all through the haying period, as utterly to forbid the harvesting of this grass, and on the last days of September men and teams were engaged in getting away a portion of it, for litter, perhaps to the amount of one ton in fifty. A gentleman who lives on the margin of one of these meadows, states it as his opinion, that he can look out from his windows upon *two thousand tons* of standing grass! That is, grass that would make that amount if dried as hay. Here is *ten thousand* dollars' worth upon a single meadow, a loss to its owners through the injustice and rapacity of others, who have not, in our judgment, the slightest claim upon the land or the slightest right to flow it.

This state of things cannot always last among a people as just and intelligent as are those of Massachusetts. Sooner or later, the stupendous fraud practiced upon the last legislature will be made clear, and the punishment which such conduct deserves visited upon the heads of its perpetrators, and those rights will be restored which have so long been wrested from the land-owners in the beautiful Concord River Valley.

For the New England Farmer.

SUMMER-MADE MANURES.

Mr. Editor:—Within the last few years many of our best farmers have changed their mode of saving their summer's manure, and now, instead of yarding the cattle at night, they stable them, using a sufficient quantity of some absorbent to save the liquid portion, the whole being thrown into the cellar or a tight shed; but experience has sometimes shown that such manure is unfit for some purposes.

I have seen such manure carted out in the fall into the fields, and the next spring shovelled over, and at planting time put in the hills for corn, and the result has been a very light crop, not as good, I think, as it would have been without anything in the hills; so often has this been the case, that some have felt inclined to return to the old method of making in the open yard.

Now it seems strange to me that the corn should refuse to grow upon such manure. I suppose many will say that "the reason is very plain—the manure was too strong." I do not think that this is all the trouble with it. I know of a small piece of corn, which was planted upon manure made last season by stabling and using loam to save the liquid portion. Late in fall it was removed to the field and when put in the hills at planting time a spoonful of superphosphate was thrown over most of it, but was omitted on a part. Where the phosphate was put there is a fair crop, but next to nothing where omitted.

Had it been owing to the strength of the manure, I think that the addition of the superphosphate would have only made the matter worse. If you or some correspondent would enlighten me a little upon this matter, I should esteem it a favor, as my object in writing is merely to draw out the opinion of others who have had more experience in the matter. In the instance which I have just mentioned, the effect of phosphate was more evident than in most other places where I have seen it used this season, as in quite a number of cases its effect was scarcely perceptible.

Worcester County, Sept., 1862. Tyro.

Remarks.—We can conceive of no objection to such summer-made manure as our correspondent describes. Such manure, if properly preserved until hauled out, must be very strong, and of course ought to be judiciously used. At any rate, he describes our own practice in collecting and preserving summer manure, and we certainly receive the most decided benefits wherever it is used.

THE GRAY SQUIRREL.

The gray squirrel is one of the most beautiful and graceful of the inhabitants of our forests, in which it generally makes its home, hardly ever venturing from them, unless occasionally, when the Indian corn is ripe, it enters the fields to add a little to its winter store of nuts; the amount which it pilfers could hardly be missed, however, unless the field should happen to be in or near the woods.

It prefers forests of chestnuts or oaks, in which its winter store can be readily collected. The first heavy frost is the signal for this work to commence, and the dropping of the chestnuts and acorns which the frost has loosened, accompanied by the rustling of the squirrel through the newly-fallen leaves as it gathers the nuts together, and carefully deposits them in hollow trees and crevices of rocks, or buries them in some secure place beneath the leaves, are the sounds most intimately connected with our woods in the autumn season.

The summer nest is built in some tall tree, at the junction of several limbs with the trunk. It is composed of sticks and leaves, and is lined with soft grass and ferns; in this the young are reared, and live with the female till they are old enough to shift for themselves. At the approach of winter, some hollow in a tree is selected, sometimes the abandoned nest of a woodpecker, in which a warm nest is built, composed of grass and soft leaves; this is the winter home of usually the whole family. In early spring the young are driven off by the old ones, who soon build the summer nest, in which to rear another family. The young, after being driven off, soon pair, and in their turn become heads of families.

The habits of this animal are very interesting. You may be walking through the woods, and shortly you hear what you at first think to be the barking of a small dog; on listening, you discover your mistake; the abrupt notes *qua qua*, with

chattering guttural additions, proceed from the tall tree a few rods from you; you cautiously steal on tiptoe to the foot of the tree, but do not see the animal, even after looking carefully on every side. You know the little fellow is there, for he could not possibly have got out of the tree unless you had seen him. Now, if you go close to the tree, and step quickly to the other side, you will see him whisk suddenly to the opposite side from you, where he is now closely hugging the tree, and perfectly motionless; your interest has now become awakened, you are curious to see more of him; very well, you must retire a few rods, and remain perfectly still. You had better take a comfortable seat, for he will not move while you are near the tree. Presently you see his head, with its bright, lively eyes, slowly moving around to the side where you are; this is the first reconnoitering movement. If you remain perfectly still, he will soon take his position on a limb, where jerking his tail and flaunting it in conscious security, he gives vent to his satisfaction at your removal in a series of chattering barks, which are answered, perhaps, by other squirrels that you had no thought were in the neighborhood; soon one of them, with a challenging bark or chatter, chases another, and shortly three or four of them are scampering about, running through the fallen leaves, and up and down the trees in high sport; presently one of them, in escaping from the others, comes suddenly near you; with a shrill whistle of astonishment he scampers up the nearest tree, and is soon as effectually concealed as all the others were the instant he gave the alarm.. You may as well retire now, for you will see nothing more of them; as long as you remain near, they will not budge a foot.

AUTUMNAL SCENES.

What a rich and attractive book might be written by a person who has the genius,—it must be almost a passion,—upon *Autumnal Sights and Sounds*. How unlike the flush of Midsummer, the new life and glow of May, or the grand march of the Winter Months, would it be, in the scenes it presents. And then in sounds, as well as sights, how differently they strike the ear,—ah, the *heart*, too. Now, they are full, but subdued; uttered in solemn cadences in the twilight, the shades of evening, or hedge or forest aisles,—all unlike the joyous notes of Spring, breaking from every throat in the glorious sunlight, and from every bounding creature that can lift its voice to Heaven! What surpassing Wisdom and Love is manifested in the changing Seasons! What a different class of sensations, of hopes and delights, they bring to all observing and reflecting minds—and how gently, and confidently they lead us up to Him who created and arranged them.

With what unusual quiet and beauty these sights and sounds have come upon us this season. No untimely frost has fallen upon foliage or flower to lay them low in their prime, and they have been left to assume their varied hues by the gradual process of ripening. In low places, where the roots of trees do not take deep root, they began to put on their autumnal drapery early in September, and gave the hedge and copse a beautiful appearance at that early day. This process has been going on until the highways and byways, and the grand old forests, are beaming in a splendor of unrivalled hues. No wonder that the poet declares that the "year grows splendid." What a gratification it must be to the writer, to be able to *express* the thoughts given in this beautiful little poem, on

OCTOBER.

BY LYDIA A. CALDWELL.

The year grows splendid! on the mountain steep
Now lingers long the warm and gorgeous light,
Dying by slow degrees into the deep
Delicious night.

The final triumph of the perfect year,
Rises the woods' magnificent array;
Beyond, the purple mountain heights appear,
And slope away.

The elm, with musical, slow motion, laves
His long, lithe branches in the tender air;
While from his top the gay Sordello waves
Her scarlet hair.

Where Spring first hid her violets 'neath the fern,
Where Summer's fingers oped, fold after fold,
The odorous, wild, red rose's heart, now burn
The leaves of gold.

The loftiest hill—the lowliest flowering herb—
The fairest fruit of season and of clime—
All wear alike the mood of the superb
Autumnal time.

Now nature pours her last and noblest wine!
Like some Bacchante beside the singing streams,
Reclines the enchanted Day, rapt in divine
Impassioned dreams.

But where the painted leaves are falling fast,
Among the vales, beyond the farthest hill,
There sits a shadow—dim, and sad, and vast—
And lingers still.

And still we hear a voice among the hills—
A voice that mourns among the haunted woods,
And with the mystery of its sorrow fills
The solitudes.

For while gay Autumn gilds the fruit and leaf,
And doth her fairest festal garments wear,
Lo! Time, all noiseless, in his mighty sheaf
Binds up the year.

The mighty sheaf which never is unbound!
The Reaper whom our souls beseech in vain!
The loved, lost years that never may be found,
Or loved again!

SINGING.—The effect of music is powerful. In a school it has a tendency to promote cheerfulness and help discipline. It also furnishes a pleasant relaxation from study. Wherever it has been faithfully and systematically tried, with well qualified instructors, it meets with general commendation. To unite in singing at the opening of a school, seems to compose the mind and fit it for study; and to sing at the close of the school, when the perplexities and duties of the day are over, tends to allay all irritable feeling—to unite hearts—to bring rays of sunshine to clouded countenances, and make the associations of the school-room pleasant and inviting.—*Maine Teacher.*

For the New England Farmer.

AGRICULTURE IN COMMON SCHOOLS.

MR. EDITOR:—As this subject has been left open for discussion by one of your correspondents, I venture, without flattering myself that my opinion will have much influence over the "solid men" of the farm, to express my views of the project.

The author of the "Retrospective Notes" says, that "every study may, with perfect propriety, be introduced into a common school, which has any tendency or power, by its increasing knowledge or invigorating mind, to fit and prepare the young for the worthy discharge of the duties, offices, responsibilities and transactions or business of adult life." If this is the truth, and there is no reason for doubting it, then, not only agriculture, but law, medicine, theology, or any of the arts, sciences, trades and professions, might, with equal propriety, be introduced as studies into our common schools. But, says one, who would think of sending a child to a district school to learn law or medicine, or to acquire a practical knowledge of any trade or profession? No one would do so, and for this reason; we have no teachers who are qualified, or required to teach such things. Now the facts are the same with regard to the study of agriculture. There are but very few teachers who possess even a theoretical knowledge of the agricultural art. The pupil might as easily acquire a book-knowledge of farming at home, as at school, if the teacher is not qualified to instruct him. When a boy I commenced the study of astronomy in the district school, but the teacher was not acquainted with the science, and as there was no apparatus to illustrate its truths, my progress was slow—indeed, I might as well have learned and recited my lessons at home.

With proper text books, and a practical, skilful agriculturist for a teacher, a boy who intends to become a farmer, might gain knowledge which would be exceedingly useful to him in after life. But after all, the best place, in my estimation, to learn the farmer's art or profession is the farm, under an experienced guide and wise instructor. It is only there that a young person or prospective farmer can overcome, in some measure, at least, his natural repugnance to hard work, and acquire industrious habits, without which his knowledge will be of but little use to him.

The scholar may have the right to study agriculture, or anything else he pleases in school, but unless the teacher can assist him in his studies no benefit will be received by going to school. Yet I do not wish to discourage any plan which has for its object the increase of useful knowledge among the farmers, and being fond of new things and new ideas, would like to have the study of agriculture introduced into our schools for a year or two, by way of experiment, for such a course would certainly do no harm, and it might do some good.

S. L. WHITE.

TO CURE KICKING HORSES.—In No. 13 I noticed an inquiry about a kicking horse. If the horse stands between two partitions, bore a two-inch hole in each, on a horizontal line, about one and a half inches above the horse's hip; put a round stick in the holes, and put a pin in each end of the stick, so that it will not fall; tie the horse pretty short, so that he will not back too far. He will try to kick, but will not be able. After a few ineffectual efforts he will give it up. After one or two years of such treatment, the horse will be cured. The horse cannot hurt himself, for the stick is too near his hips. I have two mares that used to kick. I tried this plan, and cured them. —*J. R. in Rural New-Yorker.*

MATERIALS OF WHICH SOIL IS COMPOSED.

CLASSIFICATION OF SOIL.

Soils are named from the amount, or proportions, of the various substances which enter into their formation.

If a soil consists of sand, it is called a SANDY SOIL.

If the largest portion is clay, it is called a CLAYEY SOIL.

When lime predominates, it is called a CALCAREOUS SOIL.

Those substances may exist together, but in different proportions, in the same soil, in which case it usually receives a distinct name.

A mixture of sand and clay, with a small portion of lime, is called a LOAM.

If it contain much lime, it is called a CALCAREOUS LOAM.

If it is composed of clay, with much lime, it is called a CALCAREOUS CLAY.

A certain proportion of these substances has given specific names to soils.

Pure clay, which is commonly called PIPE CLAY, is composed of about sixty parts of silica, and forty parts of alumina, with a small quantity of oxide of iron. This kind of clay contains no silicious sand which can be separated by washing with water. It forms but a small quantity of soil, and is found in comparatively few localities.

TILE CLAY forms the strongest of clay soils. It consists of pure clay, mixed with from five to fifteen per cent. of silicious sand, which can be separated from it by boiling or washing.

CLAY LOAM contains from fifteen to thirty per cent. of fine sand, which can be separated by boiling. The different parts of this soil may be very easily separated, and it is consequently more easily worked. Such soil is very properly sought for in the selection of a farm.

A LOAMY SOIL contains from thirty to sixty per cent. of sand, which is retained so loosely that it can be readily separated from it by washing.

A SANDY LOAM leaves from sixty to ninety per cent. of sand.

A SANDY SOIL consists mostly of sand, and contains no more than ten per cent. of clay.

In a MARLY SOIL the proportion of lime must be more than five per cent., but less than twenty per cent.

MARLS are called SANDY, LOAMY, and CLAYEY, in accordance with the proportions they may contain of these substances, provided they be free from lime, or do not contain more than five per cent. of this material.

Soils are denominated CALCAREOUS when the proportion of lime exceeds twenty per cent., and thus by its quantity becomes an important constituent.

There are also CALCAREOUS CLAYS, CALCAREOUS LOAMS, and CALCAREOUS SANDS, which take their

names from the proportion of clay and sand which they may contain.

VEGETABLE MOLD is sometimes a prominent characteristic of a soil.

In PEATY SOILS, its proportion may be equal to sixty and sometimes as much as seventy-five per cent. of organic matter.

EXTRACTS AND REPLIES.

MUCK—APPLE TREES.

I have been digging muck, nearly half clay. I wish to apply this to a gravelly loam, where I wish to sow wheat in the spring. Will it do to apply muck of that kind dug now, next spring, without mixing with lime, or in other words, how shall I apply it to make it pay?

Also, I should like to learn if anybody knows how to make fruit trees bear the *odd* year, especially apple trees. Last year I had next to none, this year an abundance, and next year I shall have none again. Will you, or some of your experienced correspondents, give me light on these subjects? YOUNG FARMER.

Deerfield Centre, Sept., 1862.

REMARKS.—If the muck is black and fine, and has little or no acidity, cart it to your intended wheat land this fall and drop it in cart load heaps, or spread it, if you have opportunity. It would be well to sow lime on this if you can; if not, the muck alone will be an excellent dressing.

It is said that taking the blossoms from a tree will cause it to bear the succeeding year. It probably will. Did you ever take the blossoms from a medium-sized tree that had a full blow? How long do you suppose it would occupy one man to do the job? When you have completed one tree, we think you will never begin another. No other mode of changing the bearing year occurs to us. We are all in the same condition that you are.

—

POULTRY AND POULTRY-HOUSE.

1. It is said that salt hay will keep fleas out of a dog-house; now wouldn't it keep lice out of hens' nests?

No. Nor fleas out of a dog-house, in our opinion. A great deal of labor is thrown away in attempts to prevent the access of insects, or to destroy them when they are in possession, by expedients similar to that suggested in the above inquiry. Insects are created to live and propagate their kind exposed to the elements, and are capable of sustaining themselves against measures vastly more severe than scattering a little salt hay about them. Perfect cleanliness in the hen-house, with proper feeding, will usually be followed by *perfect health* in the fowls who occupy it; *usually*, but not always. With the best care, it is surprising how a stock of poultry will sometimes become infested with vermin all at once, and seem to defy all the skill of the keeper to dislodge them. Indeed, they are occasionally triumphant, and destroy the whole family. We have known this result with some of the most skilful persons—but not often. If you find a fowl in your collection that is sick in the least, or that has lice upon it, take it away at once and give it all necessary attention by itself, so that it shall not communicate the vermin or the disease to others. This will be found much more easy than to cure.

2. The *Country Gentleman* says, "spread lime dust on the hen-house floor." Does not this injure the manure, and would not ashes do as well?

The *effect* of ashes spread upon the floor would be similar to that of lime, only less in degree. Neither, however, would be objectionable, used judiciously for the purpose suggested by the *Country Gentleman.*

3. Why have any floor? It seems to me that a dry, smooth bed of sand or clay has several advantages over board flooring.

There is no need of a floor if the apartment is dry. Your own views of the matter we think are correct. We use no floor but such as you describe.

4. Would "tan bark" packed about the sides of the house harbor lice?

It would be quite likely to, and yet we should not hesitate to use it for the purpose of keeping the building warm.

5. I hear old farmers speak of getting their pullets "too fat to lay." Is there any truth in that?

We think there is. Laying hens that are fed principally upon corn and corn meal made into dough, become extremely obese, and we have thought ceased to lay as liberally as when not burthened with such a mass of fat. Perhaps a good way to feed them would be to feed once each day with a small portion of corn, and leave barley and oats constantly before them, giving the boiled potatoes, scraps, sour milk, &c., occasionally, as they can be spared.

6. What is the proper way to scald poultry?

Have a vessel of scalding water at hand, and immerse the fowl, lifting it up and down gently two or three times. But the water must not be *too hot*, nor the fowl kept in too long. A little experience, coupled with careful observation, will soon teach you what the right temperature and the right time is. Poultry, however, that commands the highest price in market, is rarely scalded. But it requires "knack" and patience to pick a fowl well without scalding.

7. Is there any cheap machine suitable for cutting livers, lights, &c., for hen feed?

Yes. A small meat-cutter, such as is used in preparing sausage meat, may be purchased for about two dollars and fifty cents, and would an-

swer the purpose very well. They may be found at the agricultural warehouses.

8. Do you still think "Dorkings" the most profitable breed for marketing? Gray or white?

Sept. 30, 1862. A NEW SUBSCRIBER.

Our opinion on this point should not be urged, because we have not bred other varieties sufficiently to know their merits.

—

CRANBERRY CULTURE.

I would like to make a few inquiries in regard to the cranberry culture.

1. What time of the year should the plants be set out?

2. Which kind is the best?

3. Where could they be obtained, and at what price?

4. How long after they are set out before the plants will bear?

5. How near should the plants be set out?

New Hampshire, Oct. 6, 1862. "FARMER."

REMARKS.—1. Set the plants in April.

2. There is but little difference in the varieties, —the *Bell*, *Bugle* and *Cherry*.

3. They can be obtained from hundreds of meadows, scattered all over the eastern portions of this State and New Hampshire.

4. The plants will bear quite moderately the second year after they are set; the third year we have taken a bushel of fine berries from a square rod of land.

5. Set the plants as near as you can afford to, —so that they will touch each other, if you please. If set one foot apart each way, they will cover the ground in three years, if they succeed well.

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POTATO DIGGING.

I like the column of "Extracts and Replies," in the *Farmer*, for its valuable hints to learners in the art agricultural. I have, in prospect, a long siege at potato digging. They grow in straight drills, in sandy loam.

Query.—Cannot potatoes, growing in straight rows, be dug to better advantage by first using a plow? Would not even a common plow, facilitate the process, if carefully used along one or both sides of the rows?

Granting there would be some waste of potatoes, need it equal the extra time and labor required in using the hoe or digger alone?

Framingham, Oct. 4, 1862. SUBSCRIBER.

REMARKS.—A plow is sometimes used with advantage. The most effective implement we have ever seen used is a long handled spade, especially if in the hands of an Irishman who has practiced with it in that direction. A prong hoe injures too many of the potatoes, and is very slow, compared with the spade. Try the spade.

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STATE BOUNTY TO AGRICULTURAL SOCIETIES.

I am glad that the topic which I suggested in a late paper has drawn out some sensible remarks as to the continuance of our annual shows. It has really seemed to me, for a considerable time, that improvement might be made in the mode of appropriating the moneys received by our agricultural societies from the State, if these bounties are to be longer continued; of which I have more than once heard doubts expressed, as the State has so much need of money for other purposes; and as matters now go on, is likely to have increasing need. I know not how it may be in other counties, but in my own, I am fully satisfied, we could get along well enough, without the bounty from the State. I make the suggestion in the hope of drawing out instructions from wiser heads of better experience. ESSEX.

October, 1862.

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PLUM GROWING.

I have several times noticed in your paper allusions to Mr. H. VANDINE'S great success in plum growing, and desire a little information upon the matter. Cannot you persuade him to tell us, readers of the *Farmer*, how he manages to grow them "in spite of curculio and black knots;" also, which kinds are most free from curculio?

Worcester Co., Sept., 1862. TYRO.

REMARKS.—We trust friend VANDINE will oblige "Tyro," and a great many others, by giving them some of his experiences and opinions on the raising of plums.

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BREAD-MAKING MACHINE.

I saw an account of a bread-making machine for family use, described in a communication in your paper. I would like to know the address of the proprietor. S. P. M.

Cape Elizabeth, Sept. 26, 1862.

For the New England Farmer.

OBSERVATION AND EXPERIENCE.

When I was a boy of fifteen years of age, my father gave me the use of a small piece of land to plant. The soil was a deep loam, and rather moist. A crop of potatoes was harvested from it the year before, plowed and manured in the fall; the manure was dropped in heaps, to be applied the next spring. He plowed the ground, and as it was the custom among farmers in those days to plant on the furrow, he thought nothing about harrowing it for me. I had observed that it was difficult to plant on the furrow and make straight rows, and I thought it would cause more labor to dress it. I had taken notice that when the season was a dry one, the soil dried more. I harrowed it smooth and planted it with corn, three and one-half feet between the rows, and three feet between hills. It came up well and quick; the soil being moist, I thought I would not cover it deep, but took pains to press the soil with my hoe, and was careful to keep it free from weeds. I had observed that where the weeds were left to grow until they had attained a large growth it required more labor to dress the soil, and that the earth was dryer and more barren. The year before, my father planted a piece of land with potatoes; it was wet, and could not be planted very early; before they were large enough to hoe it

was necessary to commence haying; however, a certain portion of them were hoed, and the remainder left until a dull day in haying; it was my lot to assist while hoeing, and I observed a difference in their growth. That part of the piece which had been hoed grew rank, and looked very healthy, while the remainder looked slender. I helped harvest them, and that part first hoed yielded well—the others were smaller. The crows pulled up a little of my corn, which I transplanted as faithfully as I could, being very careful to take up some earth attached to the roots, and not disturb them. This I did by the use of a brick-mason's trowel. Some of the ends of the leaves turned yellow and looked sickly, but immediately I was favored with a rain, and I soon perceived that it began to assume a more healthy appearance. When I hoed it the second time it looked as green and promising as the other, only the stalks were lower. At harvest it would have required a close observer to perceive any difference, and the soil gave me a good yield.

The next year I planted a piece with potatoes, and fitted the piece well, according to my understanding; harrowed it smooth and furrowed it out with a small plow. The farmers in that vicinity were in the habit of planting three and one-half feet between hills and rows. I often observed that there was a waste of land, and resolved to try an experiment. I made my furrows three feet apart, put manure in the hill, and potatoes about one foot apart, and a less quantity in the hill. It was a forward spring, and as I manured well, they came up and grew vigorously. I hoed them when about three inches high. I had often noticed that when left to grow to a foot in height before hoeing the weeds grew as well as the potatoes. I hoed the second time early, leaving no weeds to grow. About the first of July they almost covered the ground with healthy tops. I raised about one-eighth more, I thought, than my father, though his soil was as good and as well manured. They were almost all fit for table use.

W. E.

THE STORY OF AN ATOM.

The atom of charcoal which floated in the corrupt atmosphere of the old volcanic ages, was absorbed into the leaf of a fern when the valleys become green and luxuriant; and there, in its proper place, it received the sunlight and the dew, aiding to fling back to heaven a reflection of heaven's gold; and at the same time to build the tough fibre of the plant. The stem was consigned to the tomb when the waters submerged the jungled valley. It had lain there thousands of years, and a month since was brought into the light again, imbedded in a block of coal. It shall be consumed to warm our dwellings, cook our food, and make more ruddy and cheerful the hearth whereon our children play; it shall combine with a portion of the invisible atmosphere, ascend upward as a curling wreath to revel in a mazy dance high up in the blue ether; shall reach the earth again, and be entrapped into the embrace of a flower; shall live velvet beauty on the cheek of the apricot; shall pass into the human body, giving enjoyment to the palate, and health to the blood; shall circulate in the delicate tissues of the brain; and aid, by entering into some new combination, in educing the thoughts which are now being uttered by the pen. It is but an atom of charcoal: it may dwell one moment in a stagnant ditch, and the next be flushing on the lip of beauty; it may now be a component of a limestone rock, and the next an ingredient in a field of potatoes; it may slumber for a thousand years without undergoing a single change, and the next hour pass through a thousand; and, after all, it is only an atom of charcoal, and occupies only its own place wherever it may be.—*Hibberd's "Brambles and Bay Leaves."*

CURE FOR PLEURO-PNEUMONIA IN CATTLE.

A Mr. Clote writes to an Australian paper as follows: "The cure is simply inoculating every head of cattle on the farm with the diseased lung of the first animal that has either died of it or (having evidently the disease) has been killed for it. Various modes of inoculating have been adopted. The first time it showed itself in my herd I lost 160 cows and heifers, when I had all the cattle driven into the yard, and with a sharp-pointed penknife punctured the skin at the very point of the tail till I saw blood, the point of the penknife being well moistened with the matter of the diseased lung. The disease instantaneously stopped; and although I lost one or two after that, it was entirely owing to the enormous size they swelled, particularly at the root of the tail and all about the rump, completely preventing the animal from dunging. Whenever this happens now, we make an incision, and, by fomenting, prevent all fatal consequences. Some of the inoculated cattle lose their tails, and some only the points, whilst the great majority don't appear to suffer at all. Two years ago, the disease broke out again in my herd, and several had it before I was aware of it; but the moment I inoculated it stopped. A few months since, it appeared again amongst some oxen I purchased, but by inoculating all on the farm *there was an immediate end of it.* These diseased oxen had been running with my herd of cattle for a considerable time, *and not a single animal that was inoculated two years ago caught it;* only two or three I had since then purchased got affected. In short, the efficacy of inoculating is as much believed amongst the stockholders in the colony as vaccination for the small-pox. It is no uncommon thing at a sale for an auctioneer to warrant the oxen to have been inoculated to enhance their value."

A New Whippletree.—Many accidents occur from horses getting frightened and running away, caused by the whippletree being detached and dropping upon the horse's heels. An invention to obviate this difficulty has been made, and a model of the whippletree forwarded us by the inventor, Jacob Muzzy, of East Eddington, Me. The whippletree is hollow, and is strengthened by an iron fastened upon the under side, of the same dimensions as the whippletree. Through the wood part a leather strap passes, playing at each end over a roller. To the ends of this strap the fastenings for the traces are firmly placed. The whippletree is designed to remain stationary, the motion of the horse or carriage acting with ease by means of the rollers at each end, and all noise or clatter is done away with.—*Maine Farmer.*

MANAGEMENT OF PASTURES.

E are not aware that any experiments have recently been made in this region to test the practicability of the system we are about to recommend, but we, nevertheless, feel fully persuaded in our own mind, that it cannot, if systematically and rigidly carried out, be followed by other than the best results. Every farmer is aware that a successful process in the labor of enriching soils is that of "turning them out to pasture," and that soils which have been thus treated, and allowed to recuperate during a series of years, are found, on being again plowed and subjected to cultivation to be endued with principles of fertility sometimes equal to those which they possessed in their primitive or virgin state. This, we conjecture, would be the common result of the system when thoroughly carried out; and we know of no instance in which lands that have been depastured for a series of years—no matter how carelessly they may have been cropped—have been injured by it. On the contrary, many exhausted fields from which all the industry and skill of the cultivator were inadequate to secure a remunerating crop, have been restored to productiveness in a few seasons, simply by "turning them out."

This was once a very common opinion in some of our oldest agricultural districts. No sooner did a field that had been robbed of its fertility by a long course of severe and injudicious cropping fail to produce liberally, than it was "turned out to pasture." What the precise operation of natural laws upon the land is, left in this condition, we are not able to say with certainty, but have no doubt that it may be fairly imputed to three causes: the annual decay of the vegetable matter which grows upon the surface, which serves as a top-dressing, though it may be very slight—the effect of the solar rays in attracting mineral matters from below, upward, nearer the surface, where the roots of plants may readily find them, and the fertilizing influences of the atmosphere, that great ocean of light, moisture and quickening gases ever spread over the soil and descending upon it, to feed and perfect the vegetation that covers the surface of the earth. We are inclined to think that the principal advantage received by land in a state of exhaustion, is from the latter source.

When land is thus partially or wholly restored to a state of fertility, we too often find little in subsequent details to recommend. After having repossessed himself of a portion of valuable soil, almost the first step of the proprietor is to *re-adopt* the precise system of management, in cropping, by which it was originally made poor! Instead of carefully husbanding his re-attained wealth, he goes immediately and blindly to work to dissipate and destroy it.

The plan we have to suggest is this; Let the poor fields be at once "turned out;" let them lie two, four, or six years, as the case may seem to demand, and until the soil has re-acquired its former vigorous and healthy tone, and then, without the intervention of any grain crop, or if the object is grass exclusively, without any crop whatever, let them be laid down to grass. The period for plowing should be that in which vegetation is in its greatest vigor, although we should, if the land is naturally thin and weak, prefer sowing the seed the subsequent spring.

If *thorough* improvement is contemplated, the grass may be turned in, in June, and a crop of peas, millet, or buckwheat sown to be turned down as a green dressing, and a few bushels of ashes and gypsum sown, either before or after plowing.

In no case should a ripe crop be taken, nor should the young grass be fed by cattle until it has thoroughly radicated or taken strong root.

In plowing, care should be taken to let the plow run a little deeper, if possible, than in previous plowings, in order to turn up some of the subsoil, and completely to inhume whatever of soluble matter of a vegetable nature there may be on the surface, as well as to furnish a deep and genial medium for the expansion and sustenance of the young roots.

Lands managed in this way, we have no doubt would produce bountifully for four or five years, when they should again be plowed and laid down as before. Four years is sufficiently long to crop any land laid down to grass, unless it be copiously manured, or it is moist, swale land, that receives the annual wash of surrounding higher lands. Long cropping and short feeding in the fall and spring, and no dressing, will infallibly ensure short crops, an inadequate return for the cost and trouble of cultivation, and poverty in the end! On this topic a writer very truly remarks:

"However inveterate may be our prejudices against book farming, as it is ignominiously denominated, one great and startling truth is clearly obvious,—we must either remove our former mill-horse course of trudging blindfold through the routine of those ancient customs and traditionary usages which have been so long and fatally perpetuated from father to son, or renounce our farms. There is no alternative. We have out-

raged every principle of Nature in our system of cultivation, thus far, and must now adopt a new one; not, however, immediately and at once, but by degrees, just as the architect proceeds in the reparation of a time-worn edifice, rejecting what is worthless and rotten in its composition, but carefully retaining and improving, if possible, that which is sound and good. Because our fathers or our grandfathers persisted in hauling a tree from the forest by the top, is no argument in favor of our doing so."

These suggestions are applicable only to land that is capable of being plowed. On those that are not, a different system must be pursued,—and what the system should be, we hope some of our correspondents will inform us.

For the New England Farmer.

THEORY AND PRACTICE.

Mr. Editor:—The object of every farmer, I suppose, is to raise from a given extent of land the largest amount of crops at the least expense of time and labor. To accomplish this object, if he be a wise man, he brings into operation all his knowledge, whether it be theoretical or practical. In his case there is a perfect harmony between his theory and practice. The one follows, as a natural and necessary consequence, from the other. If his theory be right, his practice will be right. If his theory be wrong, his practice will be wrong. His theory and practice will both be right, or both be wrong, according to circumstances. Many things which appear to be right, and which are received as true in theory, prove to be untrue when tested by experience, and they are rejected in practice. No one will practice false theories when he knows them to be wrong. It is some what difficult to explain some true theories in practical husbandry. The theories themselves will sometimes explain useful practices, and point out the circumstances under which they may be adopted. Theories are generally the foundation of all correct practice, and form the basis of all correct reasoning. Correct theories generally lead to important practical results. But erroneous theories frequently lead to grave errors in practice. It is very important, then, and certainly we cannot take too much pains to be right in theory, which, if we be consistent with ourselves, will ensure our being right in practice.

Some seem to think that all theories are necessarily wrong, merely because they are theories, and that all practice is necessarily right. This is a great and fatal mistake. It is difficult, I know, to find two farmers who agree in everything, either in theory or practice. *Plow deep*, says one, if you wish to obtain a good crop. No, says another, I shall do no such thing. I have tried that long enough, and I know from long experience that it will ruin my land, and that I shall only get a crop of stones for my pains. *Compost your manure*, says one. I shall do no such thing, says another, for it will not add to my manure, and by so doing I shall lose my time and labor. *Build you a good barn cellar* to keep your manure, says one. Nonsense, says another, I shall continue to throw all my manure into the yard, as I always have done. *Cut your hay and fodder* for your cattle, says one. No, says another, it does not increase the amount of nutriment by cutting it, and I shall only have my labor for my pains. And so on, to the end of the chapter.

Now, here are theory and practice, truth and error, all jumbled together in the most admired disorder! What is needed to solve the difficulty is a little accurate thought and correct reasoning. For instance, the theory of deep plowing may be, and probably is, correct. But it will not do to plow all lands, of every description, deep, without regard to their condition and circumstances. It will not do to turn up a great amount of the subsoil without a liberal supply of manure of some kind. It will not do to subsoil twenty or thirty acres with only manure enough for four or five. It will not do to plow very deeply a great amount of poor land, either wet or dry, and then expect a great crop because you have plowed it so deep. No; in order to secure this end, all the conditions and circumstances essential to a good crop must be complied with. The same is true with regard to the use of compost manure, barn cellars, and the cutting of hay and fodder for cattle. There are certain conditions and circumstances, in each instance, which must be complied with, in order to be successful. The same is true with regard to theories generally.

Besides, there are some theories which, though true, are yet of no practical importance, and which, on that account, we should never think of reducing to practice. All useful theories, when rightly understood, conduce to correct practice. In fact, all practice, whether right or wrong, grows out of some theory, as its germ, or root. It is theory which produces practice—which gives it direction, and renders it successful. We should endeavor to understand this subject, and in the treatment of the various kinds of soil—the proper mode of preparing and applying manure—the adaptation of particular crops to particular localities, and the proper succession of crops, we need all the light of science and of theory to direct and assist us. Our want of success in these particulars is owing to our want of correct theory and practice, which alone can accomplish these objects.

Warwick, Mass., 1862. John Goldsbury.

A Novel Way of Curing a Breachy Horse.—A correspondent of the *Iowa Homestead* was riding the other day with a friend, and observed that one of the horses had a hole in each ear. On inquiring the cause, he learned that it was to keep the horse from jumping. "Why," said he, "a horse don't jump with his ears." "You are mistaken," replied his friend; "a horse jumps as much with his ears as with his feet, and unless he can have free use of his ears he cannot jump." He ties the two ears together, and has no more trouble with the horse. We give this for what it is worth.

"Thoughts on Economy."—The attention of the reader is called to a capital article in another column, on the subject stated above. We hope it may lead many excellent men and women to a candid reflection of some of the matters so fairly presented.

For the New England Farmer.

THE BIRDS OF NEW ENGLAND---No. 22.

Yellow-breasted Chat---Cedar Bird---Bohemian Wax-Wing.

The YELLOW-BREASTED CHAT (*Icteria viridis*, Bonap.,) is exceedingly rare in New England, but, being a more Southern species, is common enough in New Jersey and Pennsylvania, and the States southward to Guatemala, and westward to the Missouri. It is occasionally seen at Springfield, and in different parts of Connecticut, and I have recently been informed of a nest of these birds, discovered in Lynn, the present year. It is a bird of very singular habits, and peculiar characteristics, and has long been a puzzle to naturalists, in reference to its place in zoological systems; having been placed in half-a-dozen different genera, and in several families, but is generally regarded as ranking near the Vireos. From Wilson's admirable account of this bird I borrow the following:

"In its voice and manners, and the habit it has of keeping concealed while shifting and yociferating around you, it differs from most other birds with which I am acquainted, and has considerable claims to originality of character." "When the male has taken up his residence in a favorite situation, which is almost always close thickets of hazel, brambles, vines and thick underwood, he becomes very jealous of his possession, and seems offended at the least intrusion; scolding every passenger as soon as they come within view, in a great variety of odd and uncouth monosyllables, which it is difficult to describe, but which may be readily imitated, so as to deceive the bird himself, and draw him after you for half a quarter of a mile at a time, as I have sometimes amused myself in doing, and frequently without once seeing him. On these occasions his responses are constant and rapid, strongly expressive of anger and anxiety; and while the bird itself remains unseen, the voice shifts from place to place, among the bushes, as if it proceeded from a spirit. First is heard a repetition of short notes, resembling the whistling of the wings of a Duck or Teal, beginning loud and rapid, and falling lower and slower, till they end in detached notes; then a succession of others, something like the barking of young puppies, is followed by a variety of hollow, guttural sounds, each eight or ten times repeated, more like those proceeding from the throat of a quadruped than of a bird; which are succeeded by others not unlike the mewing of a cat, but considerably hoarser. All these are uttered with great vehemence, in such different keys, and with such peculiar modulations of voice, as sometimes to seem at a considerable distance, and instantly as if just beside you; now on this hand, now on that; so that from these manœuvres of ventriloquism you are utterly at a loss to ascertain from what particular spot or quarter they proceed. If the weather be mild and serene, with clear moonlight, he continues gabbling in the same strange dialect, with very little intermission, during the whole night, as if disputing with his own echoes."

The nest is usually placed in the upper part of a thick bush, in an almost impenetrable thicket. It is built externally of dry leaves, lined with strips of bark, fibrous rootlets, and dry grass. The eggs are four, light flesh colored, sprinkled over with specks of brown.

The length of this species is seven inches, stretch of wings about nine. Upper parts deep olive green; throat and breast, bright yellow.

Of the sub-family *Bombycillinæ* (the Fruit-eaters or Chatterers,) we have two species, one exclusively American, and the other common to both continents.

The common CEDAR BIRD or CHERRY BIRD, (*Ampelis Americana*, Wils., *A. cedrorum*, Baird,) so well known to all fruit-growers, on account of its depredations upon the small cultivated fruits, may be taken as a typical representation of this sub-family. It is found throughout nearly the whole of North America, southward as far as Central America; and throughout this extensive region it rears its young; and is even seen in winter quite far to the northward, being influenced in its migration more by the supply of food than by climate. Small, roving parties are occasionally seen in various parts of this State during this season, stopping for a considerable time wherever cedar berries abound, which, with a few other wild berries, constitute almost their whole food through the winter months; yet I have found them, on dissection, to be exceedingly fat, even in February. These birds, elegant and beautiful in form and coloring, are most voracious feeders, subsisting at all seasons chiefly upon fruits; no kind that they can manage to swallow, either wild or cultivated, comes amiss; with which they occasionally gorge themselves to such intolerable excess, that they can scarcely fly; and in May they sometimes stuff themselves nearly to suffocation with the petals of apple blossoms. Nevertheless they destroy many insects, darting upon them as they pass, in the manner of the Fly-catchers, or pursue them in the air, like Swallows, for a long time together, as I have often observed them do towards the close of summer. Among their own species they are very social, associating at all seasons in small companies, varying from three or four to fifty, and when they alight on a tree, they settle so closely that a single discharge at them will bring down a large part of the flock. In many places, epicures consider them delicate eating. They possess no song, their only note being a simple, feeble *screech*, which is their call note. One striking peculiarity of this species is its late breeding; while all the resident birds, and those that arrive early, set about this occupation as soon as the beginning of warm weather, some even in April: these birds do not commence nesting till the early broods of some other species have flown; it being generally late in June before the Cedar Birds begin to lay; and I have seen their young not fully fledged the first week in September. The nest is commonly placed in the orchard, and is large and thick, composed of coarse grass and roots of plants, well lined with fine rootlets, moss, and a wooly substance found on several species of ferns. The eggs are four, bluish white, blotched with dark purple and black. Whenever the nest is approached, the female glides off silently, and however the nest may be disturbed, seldom makes her appearance.

Length, seven inches; extent, eleven. Head, with an erectable, high, pointed crest, which, with the neck, is a delicate fawn color, darkening on the back, and passing into bluish slate on the rump; frontlet and lares velvety black; chin very dark, lightening into fawn on the breast, and pass-

ing into yellow on the lower parts; tail tipped with bright yellow. The shafts of the secondaries of the wings are prolonged into small, bright red, oval appendages, resembling red sealing wax. The whole plumage is delicate, the coloring soft and pleasing, and the general contour and carriage of the bird elegant.

The BOHEMIAN WAX-WING (*Ampelis garrulus*, Linn.,) is a little larger than the preceding, but similarly colored and ornamented; and some of the earliest writers persisted in calling the above a mere variety of this, from their near resemblance. It is but little known here, being a Northern bird, and is seen here only at long intervals, and in severe winters. It is abundant farther northward, and "millions" are said to be sometimes seen along the borders of the lakes, between the United States and Canada. It likewise inhabits the north of Europe, emigrating southward in winter. In habits it appears to differ but little from the preceding.

August, 1862. J. A. A.

THE HIGHEST BALLOON ASCENT.

Late English papers contain reports of ascents made by M. Glaisher, an æronaut, who has reached a higher elevation than had ever before been attained. On a recent trip he ascended to a height of five miles and three-quarters (30,360 feet.) Approaching that point, he observes, the corrected barometer read 10.8 inches. "In endeavoring to read the wet bulb, I could not see the column of the mercury. I rubbed my eyes, then took a lens and also failed. * * I endeavored to reach some brandy which was laying on the table at about the distance of a foot, and found myself unable to do so. My sight became more dim.

I looked at the barometer and saw it at 10 inches, still decreasing fast, and just noted it in my book. Reading was at this time about 9¾ inches, implying a height of about 5¾ miles, as a change of an inch in the reading of the barometer at this elevation takes place on a change of height of about 2500 feet; I felt I was losing all power, and endeavored to rouse myself by struggling and shaking. I attempted to look at the barometer again; my head fell on one side. I struggled and got it right, and it fell on the other, and finally fell backwards. My arm, which had been resting on the table, fell down by my side. It became more misty, and finally dark, and I sank unconsciously as in sleep."

The writer continued insensible for some time, but his place was taken by a Mr. Coggswell, who ascended still higher, until the barometer is believed to have marked only eight inches, implying that they were then six and a half miles above the ground! The temperature was then some degrees above zero; on leaving the surface it was fifty-nine degrees Fahrenheit. The descent was made without any accident. Pigeons let loose at an elevation of four miles fell down like stones, and were taken up dead on the ground.

SUBSTITUTE FOR YEAST.—Boil one pound of flour, a quarter of a pound of brown sugar and a little salt, in two gallons of water, for an hour. When milk-warm bottle and cork it close, and it will be ready for use in twenty-four hours.—*Exchange.*

For the New England Farmer.

THE VOICE OF AUTUMN.

Within a silent glen I, musing, walked alone;
No flowers were there, no bird to cheer with merry tone
My lonesome way, and make my longing heart rejoice;
But in that shady dell I heard a gentle voice,
A whispering soft, a low, melodious sound,
Amidst the fading leaves which strewed my path around.

It was mild Autumn's song, as she, with busy hands,
Painted the leaves, and spread strange beauties o'er the land:
The words she sang were few, but wise, and softly fell,
Like sweetest music in that wild, secluded dell;
And while she stained the woodland lake, and forest tree,
I treasured up her words, kind friend, for you and me.

Summer has passed away,
No blossoms deck the spray,
No bird with brilliant wings
Within the wildwood sings.

No breath of fragrant flowers,
Lured forth by gentle showers,
Is borne on softest gales
O'er hills and fertile vales.

But I, with lavish hand,
Pour plenty o'er the land;
And load, with yellow grain,
The cornfields on the plain.

And on the boughs I've hung,
Where summer birds have sung
And charmed the perfumed air,
The blushing peach and pear.

Among the tinted leaves
My fancy interweaves,
The golden apples shine—
With grapes I bend the vine.

Around their crowded barns,
Secure from rude alarms,
And want, and guilt, and woe,
The smiling farmers go.

The swamps, and forests old,
I tinge with red and gold,
Till pictures, rich and grand,
Make earth like fairy land.

From nature's glowing book
I teach mankind to look,
With confidence and love,
To Him who rules above.

Her voice is hushed; but mellow echoes of her song
Upon the hills and in the valleys lingered long;
And when her many charms, and magic beauty fled
From Winter's icy breath, and stern relentless tread,
I saw her gild with brightest hues the western sky,
As leaving earth, she soared to boundless realms on high.

October 1, 1862. S. L. W.

CONTROLLING THE INCLINATION.—It is hard work to control the workings of inclination, and turn the bent of nature; but that it may be done, I know from experience. God has given us, in a measure, the power to make our own fate; and when our energies seem to demand a sustenance they cannot get, when our will strains after a path we may not follow, we need neither starve from inanition, nor stand still in despair. We have but to seek another nourishment for the mind as strong as the forbidden food it longed to taste, and perhaps purer, and to hew out for the adventurous foot a road as direct and broad as the one Fortune has blocked up against us, if rougher than it.—*Charlotte Bronte.*

HOUSE WARMING AND VENTILATION.

Those who have made experiments for the purpose of determining the quantity of pure air required per minute by each individual vary in their conclusions. They publish from three to ten cubic feet, but when physiological facts in relation to size of lungs, health of persons and various circumstances are considered, we concede the accuracy of either amount.

We learn by science that the laws of nature do not long permit the enjoyment of health where pure air is not; and also when health is lost there can be no possible recovery of it without the aid of pure air. When we breathe, although the air in the lungs is on one side of a membrane and the blood on the other, a reciprocal action takes place between them. The blood receives, through the membrane, oxygen from the air, and at the same time the air receives from the blood carbonic acid gas and watery vapor. The amount of oxygen and carbonic acid gas thus exchanged are said to be equal—that is, pure air taken into the lungs is expelled with about 85 per cent. carbonic acid gas, and an equal amount of oxygen has been taken from it by the blood.

It appears that a middle sized man, aged about 38 years, and whose pulse is 70 on an average, gives off 302 cubic inches of carbonic acid gas from his lungs in eleven minutes, and supposing the production uniform for 24 hours, the total quantity in that period would be 39,534 cubic inches, (agreeing almost exactly with Dr. Thompson's estimate,) weighing 18,683 grains, or rather more than 11 ounces Troy. The oxygen consumed in the same time will be equal in volume to the carbonic acid gas. See Respiration, under Physiology, in the Encyclopedia Britannica.

It has been shown by experiment that pure air once breathed contains 85 per cent. of carbonic acid, and that the same air by continued respirations would not take more than ten per cent. Hence the necessity in the preservation of health of breathing air but once as it enters and departs from a room. Proper ventilation permits the air to pass away after having been once breathed, for in respiration the air expelled from the lungs being warmed ascends, and is not where it may be received by their next expansion. But if by insufficient ventilation air is breathed more than once, it gives less oxygen to the blood and takes less carbonic acid and watery vapor from it than is necessary for the preservation of health. The efficacious action of the blood ceases because of the deleterious presence of carbonic acid in the blood and in the air. Carbonic acid gas has a little more specific gravity than atmospheric air, but the difference is so slight that when in a current of air it is carried upward, or if where there is no current it tends downward. When a multitude meet in a room which has not been planned to admit fresh air, the carbonic acid gas descends to the floor and from thence it accumulates upward. When it enters the nostrils of the assembly the faces of all become pale, most of them think impatiently of the pleasure of breathing out-door air, and some, perhaps, faint. I am persuaded that the germs of painful sickness and early death are thus often fixed in the human system.

We reflect with astonishment upon the sad consequences of bad ventilation—the great loss of cheerfulness and success in the attainments of intellectual power. A healthy circulation of air is often disapproved by the untutored. As needful medicine which is unpleasant to the taker may be rejected, so a healthy circulation of air by a morbid sensibility may be prevented. Because of bad ventilation children in school may dread their task. For want of pure air perhaps their digestion is impeded. They then feel as if a heavy burden was upon them. If they try to learn they seldom succeed. If they succeed in committing a paragraph to memory it is soon forgotten. Being ignorant of themselves and the cause of their maladies, they judge themselves incapacitated for intellectual pursuits.

It is from the same cause, very frequently, that religious congregations have many members who spend in church an hour of sleepy thoughtlessness, and return home without being able to tell the points of the speaker's discourse, though they had been where one of the most interesting and instructive sermons was preached. It is doubtless because of bad ventilation that the power of the advocate of the Gospel in the pulpit is much less than it would otherwise be. Houses of worship are mostly so constructed that the impure air is driven, by opening the door, upon the preacher. He, in the act of speaking, inhales it more injuriously than others. As a victim he may be marked for an early death. The sympathy and defence which he would have if a wild beast of the forest should assail him in the pulpit does not appear to defend him from the consequences of bad ventilation, which fact is a proof of the absence of knowledge in relation to the subject.—*Artisan.*

For the New England Farmer.

ESSEX CATTLE SHOW.

Mr. Editor:—I have looked in vain for some notice of the show in Essex County, which took place at Georgetown this week, but find none in your columns. Presuming that a word on the subject will be acceptable, having been present on the last day of the show, I will give my impressions.

The Plowing Match.—This, as is always the case in this county, was well contested, there being eighteen teams in operation. Everything was done as well as it might be, on a field so poorly fitted for the purpose. The field was the worst I ever saw plowed. It was a miserable piece of poor pasture, with no sod; and full of cobble stones; neither fit to be plowed or to produce anything when plowed. If the town cannot offer a better field, they may never expect another show. At least, such would be my opinion.

There was a good number of animals present, but few of them appeared to have been bred with any special regard for improvement. If I do not mistake, I could name farms in the county on which are herds superior to all that were there. This was not as it should be.

The show of horses was creditable; some of them being of the first order, but there were not one-tenth part as many as there should have been in a county where so many horses are owned, and where so much good service is done by them.

Of the *Working Oxen* I cannot speak, never having fancied the experiments of drawing loads of rocks covered with boys, up a steep ascent. This may be a good way of testing their capabili-

ty, but it does not suit my taste. I do not like those modes of labor, that are out of the ordinary way of work.

The show of fruits at the hall was limited, considering the abundance that is grown this season. I know of many a single garden in which a better collection could be gathered.

But when we come to the meetings of the farmers, here is the rub. Some gentlemen had taken up the idea that their talents had been hid under a bushel too long, and started a project to secure an election to the board of trustees. This, after being thoroughly debated, was laid over for a year, by being referred to a committee of one from each town in the county. From which committee a wise report may be expected, on which another discussion will follow. A poor way to grow turnips!

As I have before stated, I have attended every meeting of our Society, and of the Trustees, for the last *forty-four years*, and I regret to say that we are not any wiser than our fathers were, when I first met with them. I think I can hear the shade of old father Pickering saying, "O, wicked and perverse generation—they seek a sign, but no sign shall be given them." P.

October 4, 1862.

REMARKS.—Our correspondent is certainly very *plain* in his criticisms, but we think he has a right to speak, as, if no error exists, it can be shown,—and if there is, this may lead to its correction. Our attention has been a little withdrawn from the *Farmer* for a few days, in superintending a gang of men who were ditching and laying pipes on a portion of our farm.

VENETIAN WATER CISTERN.

The city of Venice is wholly supplied with rain water, which is retained in cisterns. The city occupies an area of about 1300 acres. The annual average fall of rain is 31 inches, the greater part of which is collected in 2077 cisterns, 177 of which are public. The rain is sufficiently abundant to fill the cisterns five times in the course of the year, so that the distribution of water is at the rate of 312 gallons per head. To construct a cistern after the Venetian fashion, a large hole is dug in the ground to the depth of nine feet. The sides of the excavation are supported by a framework made of good oak timber, and the cistern thus has the appearance of a square truncated pyramid with the wider base turned upward. A coating of pure and compact clay, one foot thick, is now applied on the wooden frame with great care; this opposes an invincible obstacle to the progress of the roots of any plants growing in the vicinity, and also to the pressure of the water in contact with it. No crevices are left which might allow the air to penetrate. This preliminary work being done, a large circular stone, partly hollowed out like the bottom of a kettle, is deposited in the pyramid, with the cavity upward; and on this foundation a cylinder of well-baked bricks is constructed, having no interstices whatever, except a number of conical holes in the bottom row. The large vacant space remaining between the pyramid and the cylinder is filled with well-scoured sea-sand. At the four corners of the pyramid they place a kind of stone trough, covered with a stone lid pierced with holes. These troughs communicate with each other by means of a small rill made of bricks, and resting on the sand, and the whole is then paved over. The rain water coming from the roofs of the buildings runs into the troughs, penetrates into the sand through the rills, and is thus filtered into the well-hole by the conical holes already described. The water thus supplied is limpid, sweet and cool.

DRAINING WITH PIPES.

Since the admirable work of our Associate, Judge FRENCH, upon underdraining, was published, much more attention than formerly has been given to the subject, and a new step in the *Art of Farming* has been fairly inaugurated. Persons who had no faith in the new power of the soil when relieved of cold standing water under the surface,—or water so slow in motion as to have the same effect as standing water,—by giving investigation and a little thought to the matter, have become so far convinced of its utility as to make *experiments*, and thus demonstrate the reasonableness and expediency of the process for themselves. This has been done to a considerable extent,—not only by those who are called book farmers, but by many who have never been hasty to adopt new notions, and the more trials there are made, the more popular the process becomes. Indeed, we think Judge French's book, written as it is in a manly and vigorous style, and with so many happy illustrations and humorous turns as to make it exceedingly attractive, is having a decided influence upon our people in this direction.

We have visited some old farms where the prejudices of their proprietors were as deep rooted and tenacious as the roots of the skunk cabbage which infested their water-soaked lands, and found portions of them wearing a new aspect in their crops, and smiling under the wholesome influences of a warm, moist and porous soil. Most of the experiments which we have witnessed are quite limited, but are sufficiently large to afford complete illustrations of the advantages to be gained by the process,—and to satisfy the experimenter that *it is a money-making* operation! When this fact becomes common, little argument will be needed to induce our people to make it a matter of common improvement.

A part of the autumnal work on our farm has been that of finishing the drainage of a piece of land commenced in 1857. The locality is a narrow valley, surrounded on three sides by higher land, and only the south-east side was then opened. The upland on the edge of the valley was plowed the preceding spring, but so wet was it, that the work could not be done until the 27th of May, and even then with difficulty, so thoroughly soaked

was the soil. On the following spring, and so on ever since, this land has been worked with comfort, and some portions of it even made into garden beds any time after the 20th of April! At the time of draining, the meadow was dotted with hassock grass, rushes and skunk cabbage, which all disappeared in the course of two years, without the aid of plowing, reseeding or heavy manuring; nothing being applied but a very light dressing of composted manure. It will be seen, then, that the season for farm operations on this piece of land has been lengthened in the spring about five weeks! beyond what it was before drainage had taken place. The period of growth and ripening has also been considerably extended. These results, however, would scarcely justify the belief that this land is capable of producing crops such as are matured in a climate several degrees farther south. Far from it. But it will produce and mature the most abundant crops that it would have utterly failed to bring before,—and bring them at about one-half the cost of labor that is required on wet and heavy land!

The drains have now nearly all been opened on the north-west side of the valley, there being some twenty-five or thirty laterals, of various length, according to the pitch and position of the land, some of them being not more than thirty feet in length, while others are two hundred, all laid with pipe having an orifice two inches in diameter, and discharging themselves into the main drain, laid with pipes of three inches orifice.

This side of the meadow being exposed to the drainage of a long hill with several acres of tableland at its top, we have put the lateral drains only twenty feet apart. They are all four feet deep, so that from the centre, between them, there will be a fall from the surface to the bottom of the ditch of *four* perpendicular feet, to every ten horizontal feet. That is, standing in the centre between two drains there will be a fall on the right hand and on the left of *four* feet to the bottom of the ditch, for each of the ten feet from the centre to the ditch itself. Under such circumstances, the drainage of the soil will take place rapidly, and be of the most thorough character, and the beneficial results to the growing crops, having a warm, moist and porous soil in which to extend and perfect themselves, will abundantly repay all the cost incurred, during each five years hereafter, so long as the land shall be properly cultivated.

On Thursday last several gentlemen came to see the operation as it was going on, viewing, in the first place, that portion of the land drained in 1857, and then the new portion, and comparing the herbage and condition of the two parts. The contrast was so striking as to arrest the attention of all; the drained side being covered with a thick stubble of timothy and red top grasses, in which was added a sprinkling of uninvited ox-eye daisy, or white weed, while the other side presented the usual appearances of a wet meadow,—hassocks, coarse cut grass, rushes, &c. On retiring from the field, one of the gentlemen observed,—"I would give more for the crops of that land hereafter with *two* parts of manure upon it, than I would for it as it now is, with *six* parts of manure." If such is the case—and his experience in such matters entitles him to speak confidently—the crops will repay the cost much sooner than our estimate above indicates. The work has been done so irregularly, and so mingled with the other affairs of the farm, that it will be difficult to arrive at the exact cost per acre.

BEST WAY TO DRY APPLES.

The best method that I have ever used to dry apples is to use frames. These combine the most advantages with the least inconvenience of any way, and can be used with equal advantage either in drying in the house or out in the sun. In pleasant weather the frames can be set out-doors against the side of a building, or any other support, and nights, or cloudy and stormy days, they can be brought into the house and set against the side of the room near the stove or fire-place.

My frames are made in the following manner: Two strips of board, 7 feet long, 2 or 2¼ inches wide—two strips 3 feet long, 1½ inches wide, the whole three-quarters of an inch thick—nail the short strips across the ends of the long ones, and it makes a frame 7 by 3 feet, which is a convenient size for all purposes. On one side of the long strips nails are driven 3 inches apart, extending from the top to the bottom.

After the apples are pared, they are quartered and cored, and with a needle or stout twine, or stout thread, strung into lengths long enough to reach twice across the frame; the ends of the twine are then tied together, and the string hung on the nails across the frame. The apples will soon dry so that the strings can be doubled on the nails, and fresh ones put on, or the whole of them removed, and others put in their place.

As fast as the apples become sufficiently dry they can be taken from the strings, and the same strings used to dry more on. If large apples are used to dry, they may be cut in smaller pieces.

I suppose that pears, quinces, and perhaps other fruits that can be strung, might be dried in this way, although I have never dried any in this way except apples.—C. T. ALVORD in *Country Gentleman.*

SURFACE APPLICATION OF MANURE.—From the result of various trials, Professor Voelcker seems to lean to the opinion that the spreading of farm-yard compost on the surface of the soil, for even a considerable period before it is plowed in, is by no means so injurious a practice as we have hitherto been led to suppose. He says, "that on all soils with a moderate proportion of clay, no fear need be entertained of valuable fertilizing substances becoming wasted, if the manure cannot be plowed in at once. Fresh, and even well-rotted dung, contains very little free ammonia; and since

active fermentation, and with it the further evolution of free ammonia, is stopped by spreading out the manure on the field, valuable manuring matters cannot escape into the air by adopting, this plan." If this is a reasonable conclusion, it goes far to remove our dread of losing, on such soils, the better portions of farm-yard manure by top-dressings. As the season will soon be here when these dressings are commonly applied to grass, it will be useful to remember this fact. The best time for applying the manure is held, by the great Cheshire grass farmers, to be in the end of September or the beginning of October, particularly in a showery period, as the grass soon covers it, and renders it less liable to be damaged by the sun or drying winds.—*Mark Lane Express.*

A QUESTION ABOUT MANURE.

SHOULD MANURE FERMENT AND DECOMPOSE IN THE BARN-YARD OR THE FIELD?

It is the general practice in this country to allow the manure formed in the barn-yard during the winter to remain there until seeding time in the fall. Is this an economical plan? Does not manure undergo considerable loss in the yard during the warm weather of summer?

It has been calculated by those who have had experience and the means of ascertaining, that for every ten hundred weight of dry fodder, hay or straw used, the farmer may expect from twenty to twenty-five hundred weight of manure, *in the spring.*

This ten hundred weight of dry food and straw will, as before stated, produce from twenty to twenty-five hundred weight of fresh dung, which, at the end of six weeks, will weigh but twenty-one hundred; at the end of eight weeks but twenty; when half rotten, but from fifteen to seventeen; when entirely rotten, but from ten to thirteen.

Thus, we see that, by the time the manure is fully rotten, one-fourth of the weight is lost, and the mass is diminished in bulk one-half. These remarks apply to manure which is left exposed to the action of the sun and rain.

The main loss is in water; but there is a very large loss in ammonia and other volatile substances, which are evaporated by the heat of the sun, or washed out by the rain.

The question, then, is: Would it not be better to haul the manure out to the field in the spring and plow it under, so that what loss by decomposition and fermentation does take place may be absorbed by the soil?

If enriching the soil was the only object in view, it would, without doubt, be most economical to plow the manure under as soon as possible after it is formed; but there are other points to be considered, as, for instance, the state of the soil with regard to texture.

If the soil is light and very open, it would not be economical to plow in long or fresh manure, for it would have a tendency to make it still more so; the rain would wash the soluble portions of the manure too deep before they could be absorbed by the soil, and in this way a greater loss might be created than if the manure had remained in the barn-yard. But in heavy or common soils it is undoubtedly more economical to plow in the straw and other manure while in a long and fresh state, for it will then have a tendency to render the soil more open and permit a more free passage of the air.

English farmers think this is by far the better plan, for it converts the whole field into a heap of compost, and fermentation goes on slowly, and as fast as the volatile portions are given off they are absorbed and retained by the soil.

The crop for which the manure is applied must also more or less influence the manner of application. If the crop is one which grows quickly and soon reaches maturity, it would not be economical to apply long, fresh manure, for the plant would be done growing before the manure was sufficiently decomposed to affect it much. But if, on the other hand, the crop is one which grows slowly, and it is desirable to furnish it with nourishment throughout its whole growth, then long manure will better accomplish the effect desired than common fermented or decomposed manure.

I consider that I obtain more from my manure by spreading it on the sod and plowing it under for corn, than I do by keeping it, *even with the best care,* until fall, and applying it to the oats stubble to be plowed in for wheat.

I think that the corn crop appropriates what would be lost by evaporation, had the manure been retained in the barn-yard in the usual way. And when seeding-time comes in the fall, the manure is thoroughly incorporated with the soil, and is ready to fertilize the wheat as soon as it begins to grow.

I do not find from several trials that the oats are sensibly affected by the manure, as I do not turn it up when plowing for oats.—*Germantown Telegraph.*

For the New England Farmer.

AGRICULTURE IN SCHOOLS.

I have often read the speculations of Mr. Goldsborough, with respectful interest, but I must confess, that I do not agree with him, when he says that "boys cannot be educated for the farm in our public schools." Pray tell me what is the purpose of schools, if not to fit children for the business they are to follow in after life, and what business can be more important to the community than the culture of the soil?

May not thirty years of pedagogical drill have warped the mind of Mr. Goldsborough, so that he thinks more highly than he ought to think of his mode of school teaching? I think his communication shows a little of that irritability for which school teachers are apt to be distinguished.

South Danvers, Sept. 20, 1862. SENA.

HOW TO MAKE CIDER WINE.—J. H Keck, of Macon Co., Ill., gives the following method in the *Country Gentleman:*

Take pure cider, made from sound, ripe apples, as it runs from the press, put 60 pounds of common brown sugar into 15 gallons of the cider, and let it dissolve; then put the mixture into a clean barrel, fill it up within two gallons of being full, with clean cider; put the cask into a cool place, leaving the bung out for forty-eight hours; then put in the bung with a small vent, until fermentation wholly ceases, and bung up tight, and in one year it will be fit for use. This wine requires no racking; the longer it stands upon the lees the better.

For the New England Farmer.

RETROSPECTIVE NOTES.

"How Shall the Farmer Improve his Mind?"—This is the caption of an article in the *Farmer* of Sept. 20th, and in the monthly issue for Oct., at page 478. It appears to have been called out by a few remarks which were made by the writer of the present communication upon an excellent article on "Mental Culture," which may be found at page 315 of current volume of the *Farmer*, but unfortunately upon a misinterpretation of them. If Mr. White, the author of the article on Mental Culture, will once more refer to the remarks made by the present writer, on page 386 of current volume, he will find that what he calls a "pretty severe criticism" is in reality a very mild one. He will find that his article was credited as containing some very good thoughts, while only a small portion of them was considered as "not well adapted for use among common (that is, hard-working,) farmers." His ideas concerning the cultivation of the farmer's mind were not considered nor called "Utopian and impracticable," at least not *in toto*, and at most as only not well adapted for use among hard-working farmers. The present writer recollects very well that he highly appreciated and approved Mr. White's remarks on mental culture, when they first appeared, and most earnestly wished that the whole fraternity of farmers would read and give heed to them, as far as it might be possible for them, being confident that if farmers generally would give heed to such suggestions, *benevolently* submitted for their profit and improvement, they would not only secure an increase of power, of enjoyment, and of self-satisfaction, but also contribute to the elevation of the fraternity in the general estimation, and to an increase of their influence,—usually a good one, and of a higher moral tone than that of some other classes of society—upon the choice of men for office, and upon the administration of public as well as all other affairs. Mr. White's remarks were appreciated and credited as highly meritorious, not merely for the aim or object which he obviously had in view, viz., the improvement, advancement and elevation of the farming fraternity, but also for the excellence and utility of the suggestions and thoughts presented. Such was the impression made by the bulk of the article of Mr. White, and it was only feared that, in recommending, as one essential requisite to mental improvement among farmers, that they should have a study or room by themselves, in which they were to devote an hour or two of every day to mental improvement, Mr. W. had not made *due allowance* for the difficulties and often insurmountable obstacles which stand in the way of carrying out such a proposal into practice. Tired and sleepy as most *working* farmers are in the evening, how very few of them would think it worth while to kindle up a fire in a study or separate room for any such purpose, and how few of them would be able to keep from falling asleep over their books or papers even if there were a room already warmed and ready for use! Here and there, there may be one or a few, to whom such advice is sufficiently well adapted, but for the mass of hard-working farmers it is still thought that that one portion of Mr. White's suggestions was "not well adapted for use." No one would more heartily rejoice, or be more ready to indulge in high hopes of a good time coming, than would the present writer, if only he could banish such fears, or even half persuade himself that a large majority of his brother farmers were *so resolutely bent* on the increase of their mind-power, and on the elevation of themselves and their brother farmers to a higher rank, and reputation, and influence, that they would allow no winter evening nor any other leisure hours to pass without being made to contribute in some way to these worthy objects. Were the farmers generally but fired with such an ambition, and resolutely bent upon making every day and every hour contribute more or less to the accomplishment of the objects just specified, they would then either adopt such a plan of separate study as that proposed by Mr. W., or they would make the common sitting-room for the family a scene like a school-room where either some one read for all, and all made remarks on what was read; or the father heard some of the children recite some appropriate lesson, or questioned them as to some study or course of reading; or each was busy in reading, writing, conversing and comparing ideas, or other mental exercise:—and all this mental activity and busy employment of leisure hours would naturally follow as a spontaneous outflow from the fire of ambition and resolution within. Once let the love of improvement, and the desire of possessing a well-stored and a vigorous mind, be kindled up within, and though individuals may here and there adopt the plans proposed or followed by others, yet usually each individual and each family will have some peculiarity in their methods of employing their time and the materials at their command, according to peculiarities in their circumstances, the tastes, the means, the literary helps, &c., of such individuals or families.

The great pre-requisite of mental culture is, therefore, *a deep, fixed, persevering, all-conquering love of knowledge and of mind-power; with* this each individual, family, or mutual-improvement club, will readily devise or soon discover the methods best adapted to their particular circumstances, better than an outsider could prescribe a well-adapted plan; and *without* this love of improvement and of knowledge as a mainspring within to keep the mental machinery in motion, the best plan that may be proposed will be unheeded and fruitless. Thanks and praise are due to Mr. W. for his efforts to improve and elevate the farming and laboring classes.

P. S.—The writer of the foregoing regrets very much that, owing to a limited amount of space and time at his command when he penned the brief comments made on Mr White's article on Mental Culture, he should have expressed his views so incompletely, as to leave any room whatever for the construction put upon them by Mr. W. He regrets that Mr. W. should have had any occasion whatever for deeming the writer's remarks as "severe criticism," or for having his feelings wounded in any degree whatever. Still, it seems that, after perusing the foregoing remarks, Mr. W. will perceive that he did not exactly understand the purport of the criticisms which to him seemed severe, and that they were not so unappreciative or condemnatory as he seems to have supposed them, most probably from a hurried glance.

Notwithstanding the severe sentence which he thought had been pronounced upon his views, Mr. White deserves *much credit* for the *unresentful* and *truth-loving spirit* in which he noticed the supposed severity. He represents himself as perfectly willing to have his opinions called in question, and subjected to a sifting process. He obviously cares *more* for the establishment and dissemination of the *truth*, than of any particular or favorite views of his own. Would that such a spirit were more prevalent than it is. There would be less unseemly controversies and less embittered feelings among those who differ in their views.

How very different the spirit in which a writer on page 474 notices the article of "More Anon," in which the latter calls in question some of the opinions advanced by the former. It is a spirit of wounded self-esteem, and of baseless resentment, and not of love of truth more than of individual opinions. MORE ANON.

THE APPLE TREE BORER.

We hear so much of the damage done by the apple tree borer, and have so many personal inquiries in relation to the pest, that we make special use of the following note, instead of transferring it, as usual, to the column of "Extracts and Replies."

BORERS IN APPLE TREES.

I want to know if there is any way to get rid of, or prevent, the apple tree borer? I have an orchard of about fifty-five trees, young and old, and I have dug out about one hundred borers, this season, from them. Some of the young trees are badly hurt by them. I saw two articles, (in the Monthly *Farmer*, I believe,) to get rid of them; one was to dig away all the dirt from around the tree, and the other was to pile up dirt around the tree. I have never tried either. For three or four years past I have put a little pile of ashes around each tree; but it does no good; they increase every year. My trees are on good ground, stony and warm, and top-dressed every year. The apples are a good deal wormy, and I always pick up the windfalls and put them in the hog-pen. The trees grow middling well, and I keep them well trimmed and cared for.

CHARLES D. BARTLETT.

West Hatfield, Oct., 1862.

We have more than a thousand fruit trees on our little farm, and have never yet seen a borer among them, nor the effects of one on any of the fruit trees. A few fine young locust trees were entirely ruined by the beetle named *Clytus pictus*, or the *painted Clytus*, we suppose, which stood only a short distance from several apple and pear trees.

The modes recommended on all sides, seem to be simple and few, by which to prevent or destroy these pests. Downing says the most effectual mode of destroying it is that of killing it by thrusting a flexible wire as far as possible into its hole. We have practiced this on the trees of some of our friends, and with pretty good success. This practice will be a perplexing one at first, by not understanding how to manage the wire, and secondly, in being puzzled to find the hole of the depredator. The first difficulty will vanish after a little patient practice, and one will be able to move a soft, flexible wire in almost any direction which the hole may take. The second requires some knowledge of the habits of the insect, whereby the evidences of its presence may direct us to the creature himself. It appears that the butterfly, or miller, that produces the borer, flies in the night, and deposits its eggs in the bark of the tree, and generally quite near the ground, during the months of June and July. It is supposed that it remains in the tree, in the grub state, two or three years, before it comes out in the butterfly form. It is while here in the grub state that it destroys the fruit trees.

Harris states that some of these borers always keep one end of their burrows open, out of which, from time to time, they cast their chips, resembling coarse sawdust; others, as they proceed, fill up the passages behind them with their castings, well known among us by the name of powder-post. These borers live from one year to three, or perhaps more years, before they come to their growth. They undergo their transformations at the furthest extremity of their burrows, many of them previously gnawing a passage through the wood to the inside of the bark, for their future escape. When the beetle has thrown off its pupa-skin, it gnaws away the thin coat of bark that covers the mouth of its burrow, and comes out of its dark and confined retreat, to breathe the fresh air, and to enjoy for the first time the pleasure of sight, and the use of the legs and wings with which it is provided.

It has been seen that the eggs are deposited in June and July. By the middle of August they have been hatched, and the grub so far grown as to be able to go to *boring* into the tree, and to *cast its chips* forth. Now is the time to detect his whereabouts, and a little careful practice will enable the orchardist to notice the chips which adhere to the tree, by their damp appearance and different color from the bark. They may also be found on the ground, directly under the hole. When this process is understood, it is not a difficult task to visit quite a large number of trees in a day, and give the invaders their quietus. The wire should be flexible, and the end held turned over so as to enable the hand to grasp and hold it firmly. File or grind the other end flat and sharp, and then turn it up the sixteenth of an inch, which will frequently enable the operator to pull the grub out.

Some recommend to burn a sulphur match in the hole, to plug it with camphor, to place a small

mound of ashes or lime about the collar of the tree, to wash with potash water, soap-suds or lime, and various other remedies. But the true one, after all, we believe to be the use of the wire.

It is said by Downing, that where orchards have already become greatly infested with this insect, the beetles may be destroyed by thousands, in *June*, by building small bonfires of shavings in various parts of the orchard.

Cole says, keep the trees smooth and well washed, that insects may have no harbor. Wash them in June, July and August, in a rather strong lye of wood ashes; or with two quarts of soft soap and one-quarter of a pound of sulphur to two gallons of water, which is still better by adding tobacco, hen manure, and a little clay to make it adhesive.

We present herewith a cut of the borer in its perfect state, and of the full grown borer in the grub form. It occasionally deposits its eggs in the trunk of the tree several feet above the ground,—but this is rarely the case,—and it very seldom penetrates the limbs.

For the New England Farmer.

CATTLE SHOWS.

This is the season of the year for these institutions to flourish. But the war, or some other cause, has in a great measure put an extinguisher upon them. If the same feeling should continue for several years, they would have to be given up entirely. I have seen no adequate reasons for this feeling, and only speak of the fact, as it has come to my obervation. On reflecting upon it, the question has arisen, whether the plan hitherto pursued, of exhibiting a few select superior animals, was the best to be adopted for improving the breeds of animals; or whether it would not be better to bring forward entire herds of twenty, or more, bred and reared on the same farm, in a period of four or five years. This would lead to a selection of the best animals as breeders, and would establish the best modes of managing them.

October, 1862. MASS.

KEEPING WINTER SQUASHES.—There is just this one simple rule for keeping winter squashes: Put them in a dry, warm place, and they will not rot. It is a warm, damp atmosphere, like that in moist cellars, that causes decay. A dry stove-room or furnace heated room, which never gets cold, or a closet near the fire-place, which never gets cool enough to freeze, are good places in which to winter squashes and pumpkins. They also keep well hung up in baskets or bags overhead in the kitchen or on a hanging shelf. They should always be stowed singly—never in piles—when you wish to preserve them a long time.

THINNING OF FRUITS.

We attended the meetings of the *U. S. Pomological Society*, recently held in this city, and listened to the proceedings with much interest. We found the members as earnest in debate, and as tenacious of their opinions as though discussing some grave question of a material character, and the enthusiasm manifested gave the whole a lively and pleasant character. Enthusiasm gives tone, color and attraction to everything we do, and even in our deliberative assemblies, without it, they seem but a dignified set of owls or automatons.

The address of President WILDER was an excellent one, and was listened to with an unmistakable gratification. Below, we give some of its leading thoughts, with the intention of quoting again at a future time. What we present now, is earnestly commended to every reader.

One lesson which experience has taught us, is the importance of thinning the fruit, especially of apples and pears. This branch of pomology has received comparatively but little attention. There is a limit to the capacity of all created things. If you tax the energies of an animal too severely for a long time, the result will be premature age and decay. Subject any vegetable or mineral substance to too great pressure, and you destroy its powers of cohesion. So if you permit a tree to bear beyond its strength, you injure its fruit, retard its growth, and shorten its life. All have observed that superfecundity one year, produces barrenness the next. Hence we hear among our farmers and gardeners of what they term the bearing year. They invariably designate the Baldwin apple as a tree that bears on alternate years. But is not the cause of this alternation found in the fact that the abundant crop of the bearing year exhausts the energies of the tree, and absorbs the pabulum so as not to leave sufficient aliment for the formation of fruit spurs the succeeding year? Many varieties have a tendency to overbearing, especially those which produce their fruit in clusters. Nature herself teaches us the remedy for this evil, and a superabundance of blossom is generally followed by a profuse falling of the embryo fruit. When and where this dropping is not sufficient to prevent overbearing, we should resort to the process of relieving the tree of a portion of its fruit.

The organism which carries on healthful development, in order to repeat its cycle of functions from year to year, cannot be overworked without time for recuperation. Whatever of nutrition goes to the support of useless branches, or a redundancy of fruit, abstracts that strength from the tree which would otherwise be appropriated to the perfection of the crop, and the development of the spurs which would bear fruit the next year. One of the best cultivators in the vicinity of Boston, has reduced this theory to practice, with the happiest effect, in the cultivation of the pear. His system allows no useless wood, nor more fruit, than the tree can properly sustain. As a consequence, he produces every year superior fruit, which commands the highest price. Some have doubted whether this practice can be made remunerative, except in its application to the finer fruits. But another cultivator, who raises an annual crop

of the best apples, assures us that the secret of his success is the thinning of the fruit, and he has no doubt of the economy of the practice. No good farmer doubts the necessity of thinning his root crops, no *vigneron* the propriety of thinning his grapes. Analogy of cultivation, therefore, justifies the practice, and I entertain no question of its great importance.

Light, air and moisture are essential to the production of vegetable products, and especially of fine fruits. Who has not observed that the best specimens of fruits on a tree are ordinarily those which are most exposed to these elements? Who does not select the full-sized ruddy fruit, which has had free communion with light, heat, and air, in preference to the half-fed specimen which has shared its own proper nourishment with five or six crowded rivals on the same spur?

An experienced English cultivator says: "The bending of branches of trees by an overcrop of fruit, is most injurious, for the pores of the woody stalk are strained on the one side of the bend, and compressed on the other; hence the vessels through which the requisite nourishment flows, being partially shut up, the growth of the fruit is retarded in proportion to the straining and compression of the stalk." This is illustrated in the overbearing of some varieties, which, from a redundancy of fruit, without the process of early and thorough thinning, seldom produce good specimens, and in a few years become stinted and unhealthy trees. The overbearing of a tree is as much a tax upon its energies and constitution, as is the exhaustion of a field by excessive crops of the same kind, year after year, without a return of nutritive materials. Inexhaustible fertility is a chimera of the imagination. Sooner or later, the richest soils will require a restoration of what has been abstracted by vegetation. However fertile at first, the constant overcropping of the soil is a reduction of the elements on which health and fruitfulness depend. This great principle of sustenance and reciprocal relation runs through the whole mass of life, of mind and of matter.

Intimately connected with this process of thinning, is the time when the work should be executed. It should not be done before we can distinguish the choicest specimens in a cluster of fruit, nor delayed so long as to waste the energies of the tree. This practice, judiciously followed, will supercede the necessity of staying up the branches, will prevent injury to the tree by their breaking, and will prove decidedly economical.

Associated with the thinning of fruits is the expediency of gathering a part of the crop as soon as it approaches maturity. The remaining specimens will thereby be much increased in size and excellence. The fruit of a tree does not all come to maturity at the same time, hence this successional gathering will turn the crop to the highest practical account, and will keep the productive energies of the tree in a healthful and profitable condition.

TREATMENT OF HORSES' FEET.—Mr. Gamgee, Sen., in the Edinburgh *Veterinary Review* for August, says:—"The day will, I believe, soon come when people will not allow cutting instruments to touch the soles of their horses' feet. I have said in former papers that the wall, sole and frog are so constructed that they mutually co-operate, and that the intermediate horn, which I have shown is secreted between the wall and sole at their union, is also required to be left entire; but, by the prevailing custom of cutting the hoof, these substances, which in their nature are rebounding springs, are destroyed or greatly impaired. The custom of thinning the sole, and likewise of keeping that part always in cow dung, or other wet soddening material, under the name of 'stoppings,' was brought much into vogue after the establishment of our first veterinary schools."

BENEFITS OF AUTUMN PLOWING.

The tillage and drainage of the soil are very closely related to each other. So indeed are the tillage and manuring the soil. And these, not merely as cause and effect, are related—though drainage does enable tillage, and tillage does alter composition—but as being operations of the same class and kind. And thus Mr. Bailey Denton, though engaged in a lecture upon land drainage, could not help referring to the steam-plow—as the great tillage implement of the future. And we had from him, too, the striking fact bearing on the composition of a fertile soil, that in a state of perfect tilth one-quarter of its bulk is air.

Mr. Smith, of Lois-Weedon, says that in all clay soils containing the mineral elements of grain, perfect tilth dispenses with the need of manure; and there cannot be a doubt that a deep and thorough tillage enables the soil to draw immensely on the stores of vegetable food contained in air and rain. Messrs. Hardy again say that perfect tilth dispenses with the need of drainage, and there can be but little doubt that deep and thorough tillage facilitates the operation of whatever drainage may exist, whether it be natural or artificial.

In both these cases, the useful lesson is well taught, that it is true economy rather to put the cheap and copious storehouse of Nature's agencies to its fullest use, than by laborious and costly artificial means to imitate expensively their operation.

Such a lesson applies, beyond the advantage of tillage, to the methods by which tillage is obtained. Among the earliest suggestions of cultivation by steam power was that of reducing by its means the soil to tilth at once. The land was to be torn down as the deal is torn down at the saw-mill; though before the machine it may have been as hard and firm as wood, behind the tool as it advanced at work, it was to lie as light and fine as sawdust. But it has at length been found that it is better to leave this last refinement of the tillage process to the weather, which does it without cost. The land is now torn—smashed up—or moved and thrown about by plow or grubber in great clods and lumps. This is best done in dry autumn weather, and thus it lies till spring. Certainly no climate is better adapted for cheap tillage than the English—the rains and frosts of winter following a dry September and October must penetrate and thrust asunder the clung and hardened masses of the soil. No two particles shall remain adhering to each other, if you only give room and opportunity to the cheapest and most perfect natural disintegrator in the world.

No rasp, or saw, or mill will reduce the indurated land to soft and wholesome tilth, so perfectly as a winter's frost. And all that you need to at-

tain its perfect operation is, first, to provide an outlet for the water when it comes—by an efficient drainage of the subsoil, and then to move the land while dry, and break it up into clods and fragments, no matter how large they be, and leave for alternate rain, and drought, and frost, and thaw, to do their utmost.—*London Agricultural Gazette.*

EXTRACTS AND REPLIES.

PULLING-BACK HORSES.

Can you, or any of your readers inform me if there is any way to break a horse of the habit of pulling back when hitched? I have a horse, as free from faults, perhaps, as most horses, who will break away when hitched in a shed, stable or elsewhere. As I am no horse jockey, I am afraid if I trade him off I shall get a worse one, and therefore think it is best to keep him; but it is not safe to leave him, either hitched or unhitched. I once heard of a man who owned a horse with this habit and accidentally broke him of it by hitching him on the bank of a mill-pond, and the horse pulling back landed in the water. But it seems to me this might prove a dangerous experiment.

I once owned a horse who was lame most of the time from corns on the feet. I cured him by building a new stall for him so he could stand on the ground, and I would recommend this to any one having a horse similarly affected. N.

South Walpole, Oct. 12, 1862.

REMARKS.—We once had a colt addicted to the same bad habit. She would break a three-quarter inch new rope as though it were a tow string. We had a halter made double, and of the best materials, and was confident that no horse could break it. It was used upon her in the stable for several days. Whether she made any experiments upon it or not, we never knew, but were always careful not to hitch her to a post, or anything else, that she could start. In a few days we had occasion to leave her while pulling a wagon from the barn floor, and hitched her to a post firm enough to hold two or three horses. When approaching her from the barn, she suddenly settled back upon her haunches and gave two or three tremendous jerks that made her tremble at every joint. When near enough we gave her a sharp touch over the head with the whiplash, when she tried the experiment once more, and that was her last. After that, a piece of common twine was sufficient to hold her in the stall or to any post. It will cost little to make the trial, and it is attended with little or no danger. So long as a horse continues to break his halter, or to remove what he is hitched to, he is encouraged to have his own way, and the habit is strengthened by every repeated success. Let us know the result.

FENCES—AN EXPLANATION.

The *Farmer* for August contains a communication from South Amherst signed "A Farmer," in which he complains that I had written two articles in reply to his in relation to my fence and that I "had associated him in an ungentlemanly manner with a bad man, and furthermore had injured his feelings by giving him the right to build it, to keep him out of the way of temptation."

In reply to the first accusation I will say that the first article was not intended for publication, but a private note of explanation to the editor, although I omitted to mark it as such. The reflection that no one but himself knows who is hurt, should, at least, mitigate the second charge and the third, "to be kept from temptation" has been the prayer of the wise and good in all age of the world.

If it will not be ungentlemanly I will ask him to send me his name by letter, so that if further apology is necessary I can make it in the same way.

Perhaps this will not appear unreasonable, when it is known that I have caused inquiries to be made and have been unable to find him or his fences. C. R. SMITH.

Haverhill, N. H., Oct., 1862.

FOWL MEADOW SEED.

Noticing in the monthly *Farmer* for October an inquiry for fowl meadow seed, I would say that I have some two or three bushels of seed, pure and fresh. A sample having been sent to the editor of the *Boston Cultivator*, was pronounced very pure. There is not much sale for it here, as our farmers have not got in the way of using it, but I think highly of it. On one piece I have, it is slowly working its way into the lower land near it, rooting out bulrushes and the like. I would like to dispose of the seed, and would deliver at the depot to any address, at market price.

WILLIAM A. SWALLOW.

Nashua, N. H., Oct., 1862.

For the New England Farmer.

FALL WORK.

The busy, I might almost say busiest, time of the year has come suddenly upon us. Farmers' wives step quickly, talk briskly and work mysteriously. Various curious dishes are concocted, and put away for winter use. The curtains are stripped from the windows, the carpets from the floors, and woman reigns as furiously, and a little more so, as she did when spring cleaning engrossed her attention. Up stairs and down she flies, ever busy, ever cheerful, no matter how much work she has on hand, if her heart only be easy. But, alas, how many wives and mothers are doing their fall work, now, with drooping spirits and lagging steps, thinking of some loved one, who is far from home, fighting, and perhaps dying, for his country.

The nicely made pots of preserves are set aside with a sigh, and may be a tear, as the half-uttered wish wells up from the heart, that Jamie, or George, or Fred might sip from its luscious sweets; but they, dear fellows, think themselves lucky to get enough good wholesome food to appease thair voracious appetites, without hardly casting a thought upon the sweetmeats they know are probably being prepared at home, and which operation they once loved so well to watch. But cheer up, wives, and mothers, and sisters of the brave men who have gone to help save the "Dear old Flag"

from destruction, remember the fall work must be done, and shall our women falter because the men are away, because their loved ones are nobly doing their duty? No! never! but with true heart, let every woman do her usual share of work, and more, also, if need be, and leave the result with the Allwise Father, who ruleth over all things. The pleasant month of September glided quietly away, and soon October will be gone. With preserving and pickling, sewing and cleaning, remaking, removing and remodelling, the farmer's wife has no spare time upon her hands. She is never at a loss about disposing of the hours, but sometimes wonders how so much work can be done in so little time. The sere leaf is rattling to the ground, and each day she has new proof that winter will soon, with cold fingers, clutch all within his icy grasp. Much is to be done, ere he succeeds. Sometimes she gets almost discouraged, but as one job after another is disposed of, she becomes cheerful and happy, and with eager step performs her round of duty.

O, for one more sight of a farmer's kitchen fifty years ago. The open fireplace, with its rousing back log, sending bright flashes of ruddy light over the white sanded floor. Its long strings of golden pumpkins hung to dry, its rack of apples, cut and cored and drying also by the rosy fire, its bunches of "herbs" hung high above the reach of mischievous boys and girls, its hooks drove strongly into the plastering overhead and supporting slim strips of wood, upon which things can be spread to air or dry, while on the ends swing "the hats of all, both great and small," when the owners do not need them on their heads. It was a picture bright with love and comfort, but 'tis gone, and I see only a small, warm kitchen, with its polished cooking-stove and well arranged appurtenances.

I've sometimes thought I would discard all modern improvements, and go back half a century, but ah, me! we modern women could not stand one-half the wear and tear our grandmothers did, and it is well, perhaps, for us that we live in such an enlightened age, when everything goes by *steam!* SARAH.

West Amesbury, Oct., 1862.

MASSACHUSETTS HORTICULTURAL SOCIETY.

The annual meeting of this Society was held on Saturday for the choice of officers. Joseph Breck, after serving the society as President four years, declined a re-election. The following officers were chosen:

President—Charles M. Hovey, Cambridge.

Vice Presidents—J. F. C. Hyde, Newton; C. O. Whitmore, Boston; W. E. Strong, Brighton; George W. Pratt, Boston.

Treasurer—Wm. R. Austin, Dorchester.

Corresponding Secretary—Eben Dwight, Dedham.

Recording Secretary—F. Lyman Winship, Brighton.

Professor of Botany and Vegetable Physiology—John L. Russell, Salem.

Professor of Zoology—J. W. P. Jenks, Middleboro'.

Professor of Horticultural Chemistry—A. A. Hayes, Boston.

HOW TO MANAGE FRUIT SEEDS.

The seeds of most kinds of fruit trees should be planted in the autumn.

The seeds of stone fruit—peach, plum and cherry—should be cleansed from the pulp as soon as ripe, and either planted, or put into sand immediately. If seeds are left in the pulp until after fermentation has commenced, their vitality will be injured, if not destroyed. So, too, if permitted to remain out of the ground all winter and become dry, they do not start so readily as if planted in the autumn.

Cherry pits are sometimes put into a box and mixed with sand, and placed where the frost of winter will act upon them, and then planted in the spring. I do not like this plan, because the seeds start very early, sometimes before it is convenient to plant them. The little plants are very tender, and so easily injured that many are destroyed by the removal from the sand to the seed bed.

The safest way is to prepare the seed bed early in the autumn, scatter the seeds in rows upon the surface, covering lightly with earth, and leaving spaces between the rows for the purpose of passing along to weed the bed. The rows may be six inches, or a foot wide. Some people sow broadcast, leaving no spaces, but in that case, if the bed is a large one, the process of weeding will be somewhat tedious, and many plants will be trampled upon and destroyed.

At one year old, many of the seedlings will be of a suitable size to transplant to the nursery rows for budding.

Plum pits may be treated the same as the cherry.

Peach pits are sometimes left in barrels over winter, cracked in the spring and planted in the nursery rows. This is not a good plan.

Prepare a piece of ground in the autumn, scatter the pits upon the surface, cover slightly with earth and the frost of winter will crack them.

By the middle of May the plants will be coming up; they must then be taken up carefully, with a transplanting trowel and set in the nursery rows. The rows four feet apart, and the plants about nine inches apart in the row.

By this method, the trouble and exposure of *cracking* by hand is saved; the rows are full, and there are no gaps, where the seeds refuse to vegetate, as is often the case where the stones are cracked by hand in the spring and the seeds planted in the nursery rows.

Peach stocks should be budded the first year. —*Prof. J. C. Holmes, in the Ohio Farmer.*

We would suggest an improvement in the mode of planting the peach, founded on the natural planting, which occurs when the fruit dries up and decays on the tree, and the pit afterwards falls, planting itself in the soil.

The pits, *uncracked*, should be put out in the autumn, in rows two feet apart, and one foot or more apart in the rows—each pit forced into the ground, point downward, so that the wide or spongy end shall be upward. During the winter, this spongy end will receive moisture, and when frozen will split the shell, permitting the kernel to germinate in the spring in precisely the right position. For if the pit should lie on its side, it will be likely to produce a diseased tree with the

cotyledons below the surface of the soil. It is well known that the germ is in the upper end of the pit, and the tree, when formed, can only be straight when the pit stands erect to germinate; otherwise the parts below the surface of the ground will be crooked, and if split when one year old, the pith will be found to have changed color just below the earth-color. If any of the pits should fail to germinate the rows may be filled up by transplanting. By this mode the nursery rows will be formed at the outset, and the plants will be ready for budding in due season. —*Working Farmer.*

HEADING LATE CABBAGES.

It sometimes happens, either through the lateness of the season, or neglect in early planting, that cabbages do not head completely before cold weather sets in. These are often fed out to cattle, or thrown away, while by a little care they might be made to head during the fall and early winter. To accomplish this, proceed as follows: First, make a wide trench and transplant the cabbages into it, setting them together in a triple row. At each end of the row, drive in a crotched stake, and lay a rail from one to the other, to form a ridge-pole a foot or more above the cabbages. Make a roof of old boards or slabs, one end resting on the pole, and the other on the ground, so as to shed water. Over this, lay a little straw, six or more inches thick, and when winter sets in, put on as many inches of earth, making the surface smooth and hard, so as to be nearly rain proof. At each end of the row, leave a ventilating hole, which must be loosely filled with straw in cold weather. Cabbages so managed, will continue to grow, and will fill up their heads considerably before midwinter. When taken out in spring, they will be tender, crisp and beautifully blanched.—*American Agriculturist.*

BRACKETT'S SEEDLING GRAPE. NO. 1. — We have had the pleasure of tasting this fine fruit and desire to call the attention of our readers to the description of it, given by the Committee of the Massachusetts Horticultural Society in their report, which will be found in Mr. Brackett's advertisement in this paper. In addition to what the committee say of it, we will add that it is a very large size grape, growing in large bunches, frequently weighing a pound, and often shouldered, though not always. This grape was the result of careful hybridization, and while the vine has every characteristic of the native variety, securing it hardiness and vigor, the fruit possesses the rich and vinous qualities of the foreign grape. Among the many new varieties of this fruit which are being introduced, we have yet seen none which surpass this one, and it is so incomparably above the specimens of native grapes which are so frequently sent us, that no comparison can be made between them. It is far cheaper to bestow the care and labor of transplanting and training a vine, upon one such plant as this, than to attempt to raise a good fruit by wasting the same attention upon a seedling from the woods. We bespeak for the seedling of Mr. Brackett the share of attention which it merits, and shall have more to say of it in future.

LADIES' DEPARTMENT.

For the New England Farmer.

RECEIPTS.

Perhaps a few well tried receipts will be of some help to the numerous readers of the *Farmer.*

TOMATO PICKLE.

Take hard, green tomatoes; wipe, slice and sprinkle them over with fine salt. Let them stand twelve or fourteen hours, then pour off the water that has collected. Boil in good, sharp vinegar, with a bag of spices, some whole mustard and a few pieces of nutmeg; strain the vinegar or not, just as you choose, and put in the tomatoes; boil them till soft, skim them out very carefully into a jar, so as not to mash the pieces up, and pour the boiling vinegar over them. Keep in a cool place, but do not freeze, as it will spoil it.

SWEET PICKLE.

Take peaches, pears, tomatoes, grapes or plums ripe, but not soft, and peel them. Prepare vinegar by putting in brown sugar enough to make it to suit the taste, and boiling in all kinds of spice, clove in particular. Put in the fruit and boil till tender, being very careful not to break it. Take it out when tender and boil the syrup down very thick and pour over the fruit. Eat with meat or bread and butter. It will be found delicious.

TOMATO FOR WINTER USE.

Take nice ripe tomatoes, scald and remove the skins, put in a pan and boil till all soft, then having placed bottles in cold water and heated it to a boil, pour your tomato into the hot bottles, and seal with wax, made of resin and a little beeswax. Seal hot. When wanted, open the bottle, pour the tomato into a saucepan, put in a small piece of butter, half a teaspoonful of salt, two great spoonfuls of sugar and a little pepper; heat to a boil, and eat with dinner or tea. If the bottles are well sealed, the tomato will be found as nice in January as it is now, and if you lose it, you lose nothing but your labor and the tomato, the *fixins* not being in. SARAH.

West Amesbury, 1862.

CRINOLINE AMONG THE ORIENTALS. — The French papers publish accounts of the expedition of M. Lambert to Madagascar. Its object being primarily the spread of civilization and toleration, the envoy took out for the princesses of that island an abundant stock of crimson robes, having skirts resplendent with embroidery, sent by her imperial Majesty. But the object of universal interest among the fair was the expanding crinoline, which took everything else down, the only question being whether it should be worn above or beneath the dress. A French officer says that one of Radama's daughters decided on wearing the "cage" on the outside, and probably that will be the fashion in Madagascar.

THE BABY PAYS.

I have never known a house without a baby that got along as well as other houses. I never knew a baby that didn't pay its way in smiles and kisses to deguile the toil-worn and weary.

"I was going out to-day to get some steers to fat this winter, if that fellow had paid up his note yesterday," says Wm. Nickson, as with a corrugated brow and sad look, he sat down by the kitchen stove.

"My dear, I thought you had twenty steers now," gently replied the wife.

"Twenty! and what are they to eat up a hundred acres of corn that wont pay for hauling to market at a shilling a bushel. This miserable war!"

"Wab, wab, wab," says the baby, and the father's eyes mechanically wander to her, where she is locomoting along the floor froglike, as fast as hands and feet can carry her.

"Patty cake," says the older brother, and as baby crowingly responds, the care-wrinkled brow of papa relaxes, and the corners of his mouth begin to twitch.

"You mind how she singed for a preacher on Sunday?" says little Charley.

"There never was such a baby!" says papa, as he snatches up the little chit, and kisses the hands that would fain twine themselves in his whiskers.

The steers and the cares are forgotten, and after a merry jaunting of baby to "Banberry Cross," he goes out to his field hands a better and happier man.

For my part I pity the woman who hasn't got any babies to win back the smiles to the stern faces of the lords of creation.—*Prairie Farmer.*

BENEFITS OF RELAXATION IN THE EDUCATION OF CHILDREN.—Sir Benjamin Brodie thus expresses his opinion on this subject:—"It is only to a limited extent that the education of children can be advantageously combined with bodily labor. Even in the case of grown-up persons, some intervals of leisure are necessary to keep the mind in a healthful and vigorous state. It is when thus relieved from the state of tension belonging to actual study that boys and girls, as well as men and women, acquire the habit of thought and reflection, and of forming their own conclusions, independently of what they are taught and the authority of others. In younger persons, it is not the mind only that suffers from too large a demand being made on it for the purposes of study. Relaxation and cheerful occupation are essential to the proper development of the corporal structure and faculties; and the want of them operates like an unwholesome atmosphere, or defective nourishment, in producing the lasting evils of defective health and a stunted growth, with all the secendary evils to which they lead."

CATTLE MARKETS FOR OCTOBER.

The following is a summary of the reports for the five weeks ending October 23, 1862:

NUMBER AT MARKET.

	Cattle.	*Sheep and Lambs.*	*Shotes and Pigs.*	*Live Fat Hogs.*
September 25	3358	6060	600	—
October 2	2309	6557	450	2000
" 9	2706	8255	400	2500
" 16	2892	6726	400	2000
" 23	3466	7730	250	500
	15,231	38,228	2100	7000

The following table shows the number of cattle and sheep from the several States, for the last five weeks:

	Cattle.	*Sheep.*
Maine	3078	5849
New Hampshire	1946	2551
Vermont	5655	14832
Massachusetts	365	72
Northern New York	897	2308
Canada	326	11498
Western States	2964	1118
	15,231	38,228

PRICES.

	Sept. 25.	*Oct. 2.*	*Oct. 9.*	*Oct. 16.*	*Oct. 23.*
Beef, ₩ lb	3½@6½	3½@6½	3½@6½	3½@6½	3½@7
Sheep and lambs	$2½@3½	$2½@3½	$2½@3½	$2½@4	$2½@4½
Swine, stores, wh'le.	3@4	3 @4	3½@4	- @4	4½@5½
" " retail.	4@5	3½@5½	3½@5	4 @5½	5 @6
Dressed hogs	4@4½	4 @4½	4½@4½	4½@4½	

REMARKS.—The number of Western cattle at market this month is smaller in proportion to the Northern, than it was in September, and the average quality decidedly inferior. One week something like 200 might have been selected out of the 600 at market, whose live weight would not have exceeded 900 lbs. each. October 9th, Mr. A. N. Monroe sold 42 such cattle, averaging 814 lbs., 40 ₩ cent. shrink. There have been, however, some lots of choice, corn-fed Western bullocks at market every week, which have sold about 25c ₩ 100 lbs. higher than the best Northern oxen. Occasionally a really extra pair of stall-fed Northern oxen have found their way to market this month. In the report of Thursday, Oct. 23, a pair was noticed as follows:

BOUNCERS.—Mr. Berry Long had 1 pair of oxen on sale at Cambridge, which, although not offered as workers, did nevertheless draw, pretty much all day, a large crowd of men and boys. Several experienced dealers laid the live weight of these "steers" at 6000 lbs., or three tons, which the owner said was a little too high, as they weighed at home only 5960 lbs. Mr. S. S. Learnard drove off these cattle, with the promise of further particulars hereafter.

These oxen were not extravagantly fat or over-grown, but were well-formed, active, and apparently in a thriving condition.

The number of Northern and Eastern oxen at market, October 23, was very large and the average quality uncommonly good. As there were less than 400 cattle from the West, the trade was quite brisk. Some of the market men said that more stock changed hands on Tuesday of that week than on any other day during the past two years.

Notwithstanding the large number of cattle and sheep which have been offered for sale during the month, it is evident that prices are higher at its close than at its commencement.

Hides are now quoted at 7 @ 7¼c ₩ lb.; tallow 7¼ @ 8c; and sheep's pelts at $1,50.

Working oxen were quoted in report for October 23, as follows: 6 ft. oxen $50 @ 75; 6 ft. 6 in. $60 @ 85; 7 ft. $90 @ 110. Extra somewhat higher.

Milch cows which are really good sell readily at good prices, while poor ones, being by far the largest class, sell low and hard at any price. Sales from $20 to $50—many cows with young calves are sold at about $30.

The trade at the swine market is also improving, although the number of stores reported is small.